

**Living with Nature: Learning from the Production of
Space and Everyday Life Practices in the Settlements on
Naturally and Organically Formed Land**



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A dissertation submitted in fulfilment of the requirements
for the award of Doctor of Philosophy in Architecture

June 2024

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*Canım kızım Azade Rüya'ya
Varlığınla günlerime anlam mutluluk ve huzur kattığın için
Bu tezi sana adıyorum*

*To my daughter, Azade Rüya
For filling my days with joy, wonder, and laughter
This is for you, with all my love*

Abstract

Everyday life practices have been an essential part of the discussions around the production of space. Discussions regarding the role of the individual in the production of space question the dialectical relationship between the social and the spatial and criticise the macroscopic reading of space production solely through social, economic and political theories. On the other hand, architecture and urban design disciplines have often been interested in the impact of natural factors on space from ecological and environmental perspectives. This research aims to reveal the effects of everyday life practices on the production of space through the land reclamation process by bringing together these three components (everyday life, natural factors and space), and to analyse the cross-relationship between them. This research focuses on the everyday life practices of two different rural communities living in Cheriya Kadamakudy and East Manjakkad island in Kochi, India and their impact on the landform and settlement pattern of islands. It presents the analysis of this indigenous climate-adaptive farming method developed by the islanders against the harsh monsoon climate experienced by the region through the land reclamation process. This research also aims to fill the gap by underlining the land reclamation process's role in sustainable and resilient development, which often causes environmental, ecological, political, economic and engineering debates in the literature.

Methodologically, this research utilised a mixed-method approach (desk-based, toponymical, and ethnographic research) to investigate everyday life practices thoroughly and how they influence the formation of a landform and settlement pattern from a diachronic perspective in three scales (settlement, building, component) in two places (residential and agricultural areas). The research focused on spatial models and geospatial data through QGIS software (desk-based mapping), cadastral data obtained from deeds, plot names, land sale transactions and maps (archival research), observation and interviews using video, photo recording, sketches and drawings (ethnographic research). This designed threefold research methodology enabled an in-depth exploration of everyday life practices and their transformative effect on land formation from a diachronic perspective. These three methodology phases complement each other in a reciprocal dialectic manner and interpenetrate.

This research indicates that agricultural activities are the foremost priority among the islanders' everyday life practices that affect their space production by creating an agricultural area surrounding and integrating the residential areas of the selected islands. Additionally, kin relationships affect the formation of main streets and alleys and the distribution of houses within the island and the parcel. This research also found that islanders' belief systems and ancient knowledge of producing space impact the residential land's density and texture and the orientation of buildings. The rural island family's social structure affects the house's spatial layout, such as the distribution of public-private spaces and open-semi-open-closed space relationships. This research also found that the resilient agriculture model called integrated rotational farming of Pokkali-fish cultivation invented by rural communities living in the backwaters of Kochi through land

reclamation affected the formation of landforms and settlement patterns of islands. The spaces the islanders produced with a bottom-up approach, both in residential and agricultural areas, have a spatial arrangement that takes advantage of Kerala's harsh monsoon-tropical climate. Daylight and ventilation were influential in the houses' orientation, spatial layout, and the shaping of building components. The islanders made all design decisions on the scale of settlements, buildings and building elements in a way that would be in harmony with nature, under the influence of their everyday life practices.

In light of research findings obtained from selected vernacular settlements and the local knowledge of the islanders, recommendations are made, and guidelines are prepared to promote the development of more socially and economically sustainable communities and more climate-resilient settlements.

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Glossary

Kavu: Sacred groves in Kerala.

Onam: A ten-day harvest festival celebrated in Kerala.

Payyasam (kheer): South Asian rice pudding.

Pongal: A four-day harvest festival celebrated in southern India.

Procession: A ritual that allows Hindus to display their faith by walking from one (sacred) place to another (sacred place) during the temple festival and to carry their sacred objects with them during this walk.

Puja: A worship ritual including prayers and offering foods, flowers and lights to the Gods.

Sarpa Kavu: Natural traditional sacred space related to serpent worshipping in Kerala.

Shilpi: master craftsman, artisan in India.

Vastu shastra: Ancient science of architecture.

List of abbreviations

Abbreviations	Meaning
ARCGIS	Aeronautical Reconnaissance Coverage Geographic Information System
CRZ	Coastal Regulation Zone
CRZN	Coastal Regulation Zone Notification
GIDA	Goshree Islands Development Authority
HTL	High Tide Line
LSGI	Local Self-Government Institution
LSGD	Local Self-Government Department
LTL	Low Tide Line
PWD	Public Works Department
QGIS	Quantum Geographic Information System
SNC	Southern Naval Command

Acknowledgements

I extend my deepest appreciation to my husband, Yakup Cihat Güneş, whose unwavering support, insightful feedback, and countless late-night discussions have profoundly enriched the content and quality of this thesis. Your patience and encouragement have been a source of strength throughout this journey, and I am endlessly grateful for your unwavering presence and assistance.

I would like to thank my main supervisor Dr Shibu Raman for his invaluable guidance, and scholarly insights, throughout this research. Your valuable criticism and suggestions expertise have been instrumental in shaping my academic growth and the successful completion of this thesis.

I offer my special thanks to my second supervisor Dr Camilla Pezzica for her unwavering support and direction. This research would not have been completed without your presence. I'm not sure I have the words to adequately thank her.

I am deeply indebted to my family for their selfless devotion and assistance. To my father, Kahraman Günbek, my sister, Aleyna Ayça Günbek, and my mother, Nigar Karagöz. Your travel to Cardiff and support in caring for my daughter allowed me to focus wholeheartedly on my studies. Your sacrifices and love have been the cornerstone of my pursuit of knowledge, and I am profoundly grateful for your presence in my life. Special thanks to my brother-in-law, Hamza Cihan Güneş, for accompanying us to India during the field study. Your support during that time were invaluable, and your presence enriched my experience immeasurably.

I would also like to express my gratitude to Prof. İzzet Yüksek and Assoc. Prof. Abdullah Sönmez, who provided invaluable support in enabling me to undertake my doctoral studies abroad. Their exemplary personalities and academic attitudes served as a source of inspiration and guidance.

I extend sincere appreciation to my sponsor Republic of Türkiye Ministry of National Education for their support, which enabled me to meet the financial demands of my living expenses and university fees. I would like to also express my sincere gratitude to the local researchers, Varuna C V and Ancy Shaji, for their invaluable contributions and support during the fieldwork. Their accompaniment and expertise during the fieldwork were fundamental to the success of this research

Lastly, I would like to express gratitude to my friends Kamile, Gizem, Levent, Bayan, Reem, Shuye, Cotton and all those whose contributions may not be explicitly mentioned but have nonetheless played a significant role in my academic and personal journey. Your encouragement, inspiration, and support have not gone unnoticed, and I am thankful for the collective impact you have had on my life.

Thank you.

Chapter 1

CHAPTER 1: INTRODUCTION

'Defining exact point when land becomes sea, or when sea gives way to land, is very difficult. Even at a vertical cliff face, both land and sea are fully involved in the movement of the other, and separation is an artificial exercise. Boundary remained notional. Acknowledging and grasping this difference, the world of mixing and intermingling, gives definition to both sides of the 'divide; the world of the sea and world of the land.' (Ryan 2016, p 9).

1.1 General background

Coastal zones, where the sea meets the land and a certain intensity of social, financial and ecological interactions occur (Ryan 2016), have a high percentage of the population when compared to hinterlands of the cities (Neumann et al. 2015), having approximately 40 per cent of the global population (United Nations 2017) due to their geographical position, potential prospects, abundant resources and their role as trading centres. The inclination to choose coastal areas and their immediate surroundings for habitation inherently results in a higher rate of urbanisation in coastal areas (Neumann et al. 2015). However, the concentration of population in coastal zones is also placing significant stress on coastal ecosystems (Burt et al. 2019).

Coastal areas are vulnerable to many natural processes, including storm surges, cyclones, and tsunamis (Mitchell et al. 2006) due to their geomorphological and biogeochemical features (Najjar et al. 2000). These areas are further negatively affected by anthropogenic activities and human-induced climate change. A significant number of coastal areas are experiencing a range of impacts resulting from climate change and natural hazards including higher frequency of floods (Najjar et al. 2000; Mitchell et al. 2006; Mcleod et al. 2019) and storm surges (Bondesant et al. 1995; Krestenitis et al. 2011), increase in coastal erosion (Mcleod et al. 2019), higher level of humidity, sea-level rise (Najjar et al. 2000; Mcleod et al. 2019), and fluctuating temperature (Mcleod et al. 2019) that disrupt directly to coastal ecosystems due to mainly human-induced

activities. However, these ecologically sensitive coastal areas are exposed to the land reclamation process, which is one of the most impactful human-induced activities.

Many countries have applied seaward reclamation to obtain new industrial, housing and commercial areas by extending their land towards the water (Fu et al. 2010; Wang et al. 2014; Li et al. 2020). In addition to the creation of new urban areas through the expansion of the coastline, reclamation has also been employed to build a mega-airport, residences and resorts on the water (United Nations 2016a). When seaward land reclamation is mentioned, it is generally accepted that it means the city's artificial expansion towards the sea. Artificial land reclamation refers to building some facilities on the water resources and their surroundings by humankind (Martín-Antón et al., 2016; Ghaffari et al., 2017; Sengupta et al., 2018). These artificial urban expansions usually occur as part of planned urban development and respond to the city's population growth or infrastructure demand. Reclamation works around the harbour were carried out by the Hong Kong government from the 1840s to the present day with the "reclamation-based urban development strategy" (Ng and Cook 1997) and the infilling process carried out mainly for recreational purposes along the Izmir Karsiyaka coast in Turkey after 1980 provide planned reclamation examples (Erdoğan 2012).

However, there are also examples where the city naturally expands towards the sea. Natural reclamation refers to an infilling process that occurs through natural events. Rivers accumulate sediments on the shore thanks to waves, tides, winds (Short 2012) and currents (Matt Eliot 2016). As a result of the accumulation of these sediments, a layer is formed in the regions close to the shore (Short 2012). These areas are places where people reside in the long term or short term for different reasons such as fishing (ICMAM 2002a) and living (Cole 2008). These lands, which were first formed by natural processes, were then occupied by people organically for mainly agricultural purposes and rearranged spatially. This research focuses on urban developments through this natural and organic land formation process, which is a significant concern in rapidly growing

cities in the global south. These cities are particularly vulnerable to environmental degradation due to their ecological sensitivity and the need to balance the interests of settlers with the natural system to which they are adjacent.

1.2 Introduction to land reclamation

The term "land reclamation" is typically used to describe the process by which urban areas expand into surrounding water bodies, creating new land through artificial means. It can be classified as mine reclamation, wetland reclamation (Koroglu, 2016; WWT-Consulting, 2018), sea reclamation, arid reclamation (Jafari et al. 2018), coastal reclamation (Martín-Antón et al., 2016; Tian et al., 2016), based on the geographic nature of the area that is reclaimed, purpose and techniques.

Historically, numerous artificial land reclamation projects were aimed at gaining agricultural land (Van Lier and Steiner 1982a) or expanding the harbour (OSPAR, 2008; Martín-Antón et al., 2016; Vlachopoulou & Makino, 2017). However, over the past three decades, the purpose of land reclamation has undergone a significant transformation. In coastal towns and cities, reclaimed land was frequently utilised for urban expansion and development (Sengupta et al. 2018). Due to its rich resources, especially those necessary for subsistence, its easily accessible location, and opportunities for maritime trade and recreational activities (Neumann et al. 2015), many urban agglomerations have grown in places around water (SAM 2019). Following this many such settlements have expanded towards waterways during the urban development process (Van Lier and Steiner 1982a; Hua 2014a; Wang et al. 2014; Martín-Antón et al. 2016; Sengupta et al. 2018; Li et al. 2020). This type of urban development, achieved through land reclamation with different methods and purposes, inevitably affects the city and the people living in these lands economically, ecologically and socially.

1.3 Consequences of land reclamation

Land reclamation is a sensitive issue and causes social, environmental, ecological, political, economic, and engineering debates in the short or long term. Reclamation of land

for development is frequently argued as a cause of many ecological and environmental issues. While some argue that reclamation can positively affect the environment by preventing flooding and gaining agricultural land (Van Lier and Steiner 1982a), its opponents point out the negative impact that it has on the environment and the ecosystem such as damaging the habitats (OSPAR, 2008; Medam, 2020), increasing pollution (Ghafari et al. 2017), rising in temperature, salinity, disruption of the natural flow of water (Moussavi and Aghaei 2013).

However, land reclamation in coastal cities can promote economic development (Zhu et al. 2017) by creating land for urban expansion (Kolman 2012). The economic benefits of such development are often argued to outweigh the cost of reclamation itself (Li et al. 2020). There is also evidence that in some countries, such as Dubai and Florida, tourism emerged as a significant contributor to the economy following land reclamation (Kolman 2012).

Urban expansion into reclaimed land frequently has significant social, cultural and structural impacts on the cities which should be considered before the reclamation process starts (Ardhana and Farhaeni 2017). Some research has drawn attention to the social aspects of the land reclamation process. Discussions have developed mainly around the artificial land reclamation process and identified it as a process that damages visual and physical integration between the city and the coast, leading to a lack of identity (Zeballos and Yamaguchi 2011). Furthermore, it has also been demonstrated that the artificial land reclamation process has the potential to destroy the association between place and memory (Yilmaz 2018) and to negatively affect people whose livelihoods depend on the fishing industry (SAM 2019).

These studies, which developed around the expansion of cities, especially through artificial land reclamation, addressed the relationship between the coasts and the people living on the coasts from social, ecological and economic aspects. These land reclamation works, carried out by governments as a part of urban development, meet the city's current infrastructure population density and the need for additional land for industrial, residential or recreational use and create financial gain as in the example of

the Persian Gulf (Martín-Antón et al. 2016; Ghaffari et al. 2017) but they bring with them many problems. While many of the research discuss the opportunities and problems created by an artificial reclamation and how it affects the city, little is known about the role of local practices and traditions regarding the land reclamation process in coping with coastal stress and their impacts on the settlements created by reclamation.

1.4 Learning from the local communities: Climate, space and everyday life practices

The awareness of human-induced climate change and its relative impacts on cities (Hulme et al. 1999; Mitchell et al. 2006) has caused growing interest in the ways in which local communities have adapted to the climate with their knowledge that has been passed down through generations over centuries by developing resilient strategies. The climate is of great importance in shaping the space of local communities, and they produce a vernacular space by harmonizing with nature, not by going against it. However, an analysis of the effects of climate on the spaces of local communities alone is not enough to understand this production. The way to understand holistically how and why this spatial production happens is to understand the everyday life practices of the actors.

Rather than resisting, in many cases local people found ways to cope with the effects of nature by establishing a balance between their own needs and nature (Kazimee, 2008), the region's climate, their lifestyle and socio-economic conditions (Singh, Mahapatra, and Atreya, 2011) through solutions that respect nature (Syahril Kamal et al. 2004). Vernacular architecture refers to all types of buildings constructed built by tribes, rural people, and folk without the involvement of architects or designers (Oliver 2006) and often represents locally available, environmentally sensitive community-based technology (Bansal, 2020), addressing local needs (Shanthi Priya et al. 2012), sustainable building approach, using the most accessible materials and a wide range of existing technologies available (Özkan 2006). The vernacular architecture of a region is a result of the long evolutionary process that reflects the context, time and people (Shanthi Priya et al. 2012) and is derived from empirical observations and learnings from generations (Dili et al. 2010).

One of the most important reasons for the adoption of environmentally sustainable and culturally appropriate building forms and techniques is the lack of resources and technologies accessible to local communities, which often push them to find the most efficient solutions (Kazimee 2008). Local cultures have enabled the creation of spaces that have unique solutions to contemporary urban challenges through the adaption of traditional architectural features (Kazimee 2008) which are often knowledge passed down the generations locally (Dayaratne 2018). Some scholars argue that vernacular architecture has the potential to tackle global challenges such as climate change and housing shortages (Kazimee 2008).

Vernacular architecture has many applications, from macro to micro scale, including settlement, building and building components. Many researchers have approached the features of vernacular architecture at the building component scale, such as roofs, windows, doors, ventilators, and foundations (Syahril Kamal et al. 2004; Singh et al. 2011; Shanthi Priya et al. 2012; Bodach et al. 2014; Bansal 2020). In addition, the layout and orientation of buildings (Syahril Kamal et al. 2004; Singh et al. 2011; Shanthi Priya et al. 2012; Bodach et al. 2014) are frequently discussed by many researchers in this context. Another critical perspective is holistically evaluating all these local features on the settlement scale. Many studies have been conducted on the characteristics of vernacular settlements in different contexts in various parts of the world, (Bodach et al. 2014; Dayaratne 2018) mainly regarding their spatial patterns, impacts of their topography and locations on density and distribution.

The importance of bioclimatic strategies in shaping space in vernacular architecture has been underlined in the literature by most researchers in this field. These technical and scientific strategies are fundamental because analysing the relationship between climate and space is very important in understanding the characteristics of these vernacular settlements, but it alone is not enough to explain the formation process of these settlements. The influence of culture, traditions, and beliefs, that is, everyday life practices, in the formation of local architecture cannot be ignored. This research presents an analysis of the production of spaces under the influence of everyday lives against the

restrictions imposed by nature in the case of Kochi on two islands chosen as case studies. It reveals the knowledge of the spaces produced by the islanders living in a unique coastal ecosystem in Kochi as a result of their culture, beliefs and living standards.

1.5 Gaps in knowledge

Land reclamation has been studied in depth within the fields of engineering (Vanicek 1977; Van Lier and Steiner 1982a; Hua 2014b; Stauber et al. 2016; Shi et al. 2017; Sengupta et al. 2018), ecology and environmental studies (Van Lier and Steiner 1982b; OSPAR 2008; Chee et al. 2017; Ghaffari et al. 2017; Medam 2020), and economics (Kolman 2012; Zhu et al. 2017; Sengupta et al. 2018; Li et al. 2020). These discussions have developed around the artificial land reclamation that occurs as a result of human activity. However, the social and spatial structure of the land reclamation process initiated by natural factors has received very little attention, and its significance has been overlooked previously from the perspective of urban development and is rarely discussed in social science studies. There is a gap in knowledge as there has been an increase in urban development through this kind of land reclamation.

Architecture and urban design disciplines have often been interested in the impact of natural factors on space from ecological and environmental perspectives (Anselm 2006; Vakili-Ardebili and Boussabaine 2010; Lan 2011; Rosales 2017; Heymans et al. 2019; Shilky et al. 2024). On the other hand, there is increasing interest in studies on how the everyday lives of people affect space from the socio-spatial perspective (Babere 2015; Warakanyaka and Atmodiwirjo 2017; Cihanger 2018; Cihanger Ribeiro 2019). The impact of the land reclamation process on nature and on communities that were formed by such development need a better understanding of the symbiotic relationships between three key components namely, the impact on the natural process, the impact on the everyday life of people and how these should shape the spaces.

This study aims to bring together three components (everyday life, natural factors and space) and analyse the relationship between them. This research is about the production of spaces by local people (islanders), who respect and try to adapt to the natural

environment they live in, under the serious influence of their everyday lives through the land reclamation process.

1.6 Aims and objectives

The main aim of this research is to develop an understanding of the relationship between land and the everyday lives of people who live on reclaimed land, especially by learning from examples where the relationship with nature is positive. It is also aimed:

- To learn from the organic process of settlement development on naturally formed lands and the symbiotic relationship between everyday life and the production of spaces in such settlements.
- To develop an understanding of such symbiotic relationship to inform future development, that has appropriate sensitivities to urban expansion into ecologically sensitive areas where the development and settlers have limited or no relation to the natural system they adjoin.
- To develop a better understanding of human, nature, and space relationships at such sensitive edges of cities by studying Kochi, where such developments are more interpreted as in rapidly growing cities in the global south.

To accomplish this overall aim, this research first aimed to document the everyday life practices of islanders and to analyse the landform and resultant settlement patterns of islands in a climatic context. It further aimed to create a framework for exploring the relationship between natural factors, everyday life practices and the production of spaces.

1.7 Research questions

There is a lack of research that brings together the symbiotic relationship between everyday life practices and the production of spaces in a climate context. To develop a better understanding of these components, this research seeks to answer the following questions (Figure 1.1-1.2):

1. How do natural factors affect everyday life practices?
2. How does the natural land formation process inform the production of space in the settlement?
3. What is the nature of the symbiotic relationship between everyday life practices and spaces and patterns of settlements in organically and naturally formed land?

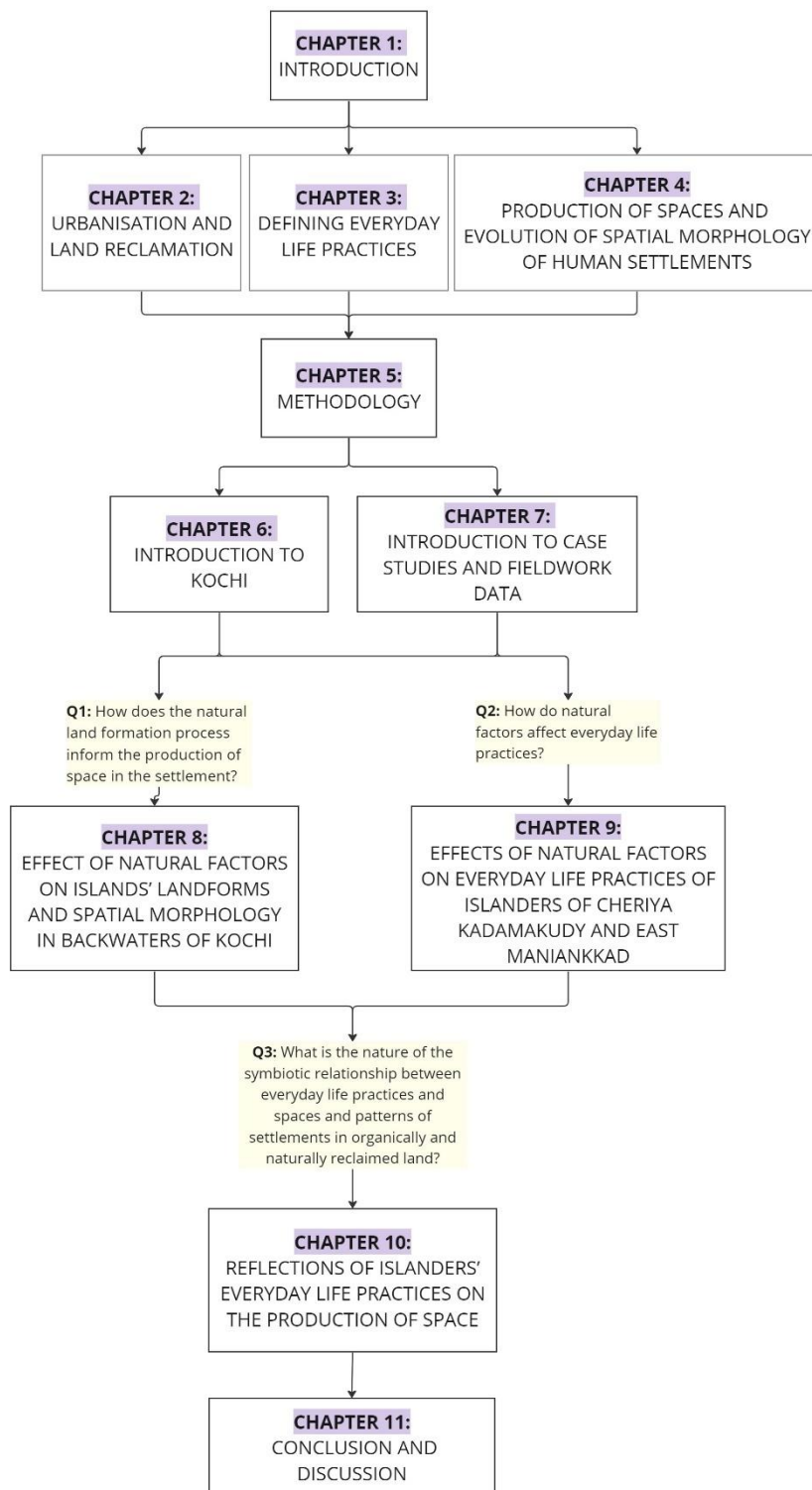


Figure 1.1: Diagram showing thesis structure and research questions.

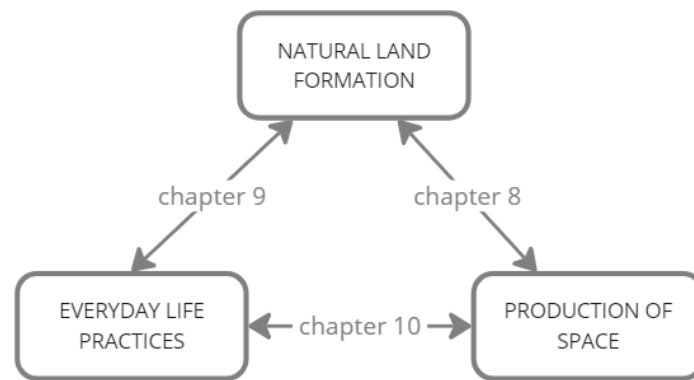


Figure 1.2: Relevant chapters addressing the relationships between components of the research framework.

1.8 Justification of the research

This research describes the space production strategies through the land reclamation process, based on the knowledge gained throughout the generation of islanders, in the case of Kochi, from the perspective of urban development and architecture. This research draws attention to how the islanders, specifically in Kochi, use land reclamation as a sustainable urban development tool and fills the literature gap on this tool's spatial and social aspects. It is also important to note that the islanders' production of space develops resistance to Kochi's unique coastal ecosystem and adapts to it at certain points, while also responding to the daily needs of the islanders. Consequently, the research is crucial in establishing a three-way relationship between nature, daily life practices and space production.

In addition, this study can provide input on how local people are directly involved in the production of space and how architects and planners understand how the land reclamation process becomes a tool of urban expansion. Once reclaimed, these lands may go through the long-term process of establishing a spatial, social or economic relationship with the main city to meet many essential needs. It is crucial to understand when these areas are integrated into the city because of the potential for the city they have and the problems they will create in urban life. In light of all this, this study gives us clues about how cities grow in different ways through reclamation in a sustainable way.

This research also contributes to the existing literature on the a bottom-up planning approach, which takes account of the natural environment and the everyday lives of inhabitants in the context of Kochi at the scale of settlements, buildings and components.

1.9 Scope and limitations

Land reclamation examples around the world differ in terms of technique, process, location and purpose. This prevents the development of a general theory addressing land reclamation processes. There are many nomenclatures for land reclamation by different disciplines, and this leads to different methods and theoretical approaches being used in the research conducted. Land reclamation and natural formation are often seen as ways in which settlements have grown in coastal regions. This research focuses on the natural land formation and artificial but organic land reclamation processes that are compatible with nature and represent a continuation of natural processes, rather than planned artificial land reclamation. This is why both the natural land formation process of the coasts and the artificial land reclamation process were subjected to analysis. While the natural and organic land formation process is a long-term, more organic process, it is also an artificial reclamation process carried out by humans. However, it develops in harmony with nature. Therefore, a mixed method was applied due to the unique structure of the natural land formation process performed on the two islands in Kochi, which were selected as case studies. Land reclamation works on the islands were carried out informally by islanders as a result of their everyday life practices. That's why the research applied to qualitative research methods through observation and interview to reveal the impact of everyday life on space. In addition, the research investigates the origin of the land reclamation process in the past, investigates at its current situation, and looks at what role this method will play in a sustainable urban development in the future. At this point, this research resorted to quantitative research methods through spatial analysis.

The main focus of the research was the production of space as a result of everyday life practices in relation to natural factors, and they were examined at three different scales (settlement, building and building components) in two areas (residential and agricultural areas) of two islands (Cheriya Kadamakudy and East Manjanakkad Islands) in Kochi's backwaters. Although the research examined the effects of the current government's policies through local and central bodies while producing these places, they could not be investigated in depth due to resources and time.

1.10 Thesis structure

1.10.1 Chapter 2: Urbanisation and Land Reclamation

This chapter presents the state-of-the-art theory, knowledge and data on the land reclamation process from different perspectives (engineering fields, ecology and environmental impacts, economic backgrounds, and social aspects) and highlights it from urban development perspectives. It also presents natural land formation, artificial land reclamation process and natural and organic land reclamation processes.

1.10.2 Chapter 3: Defining and Mapping Everyday Life Practices

This chapter presents the literature on the everyday life practices and the structure of society, and examines these two concepts separately, to develop a framework for analysing case studies. This chapter also aims to present a clear definition of everyday life practices for this research and develop the theoretical framework to map and document them.

1.10.3 Chapter 4: Production of Spaces and Evolution of Spatial Morphology of Human Settlements

Through critical analysis of theories on space and the social production of space, this chapter further aids in developing the framework for a comprehensive mapping of space produced as a result of everyday life practices of inhabitants.

1.10.4 Chapter 5: Methodology

This chapter first presents the research design, comprising the main research phases and framework conceptualisation. Then, it describes the research methodology adopted (desk-based mapping, archival research and ethnographic study) to address the research questions and three main data collection stages and tools. It also discusses the data analysis methods.

1.10.5 Chapter 6: Introduction to Kochi

The chapter briefly introduces Kochi where islands selected case studies are located. Kochi's history, climate features, architecture, diverse landforms followed by the urbanisation process, Coastal Regulation Zone (CRZ) notification and Land reform are discussed in this chapter.

1.10.6 Chapter 7: Introduction to Case Studies and Fieldwork Data

This chapter presents two case studies through the data collected from archival research, desk-based research and fieldwork to show the present physical features of their settlements and their everyday lives.

1.10.7 Chapter 8: Effect of Natural Factors on Islands' Landforms and Settlements' Spatial Morphology in Backwaters of Kochi

In this chapter, attention is directed towards the first research question: "How does the natural land formation process inform the production of space in the settlement?" To answer this question, this research used a narrative explanation of the formation of islands through plans and sections through the knowledge obtained from observations and interviews.

1.10.8 Chapter 9: Effects of Natural Factors on Everyday Life Practices of Islanders of Cheriya Kadamakudy and East Manjanakkad

This chapter focuses on the second research question, which investigates the impact of natural factors on everyday life practices. The research used mixed methods to address this question, including mapping, questionnaires, sketches, drawings and narratives.

1.10.9 Chapter 10: Impacts of Everyday Life Practices on Production of Spaces

This chapter addresses the research's third and leading research question: “What is the nature of the symbiotic relationship between everyday life practices and spaces and patterns of settlements in organically and naturally formed land?”. It also covers the analyses showing the relationship between these practices and the production of spaces in the context of climate. This chapter also presents findings at three different scales (settlement, building and building components) in two different areas (residential and agricultural areas) from the perspective of architecture and urban development.

1.10.10 Chapter 11: Discussion and Conclusion

This final chapter summarizes the research findings and outlines the contributions to the knowledge from the debate on sustainable city development and morphological studies. This research also covers recommendations for design practitioners, policy-makers and future studies and mentions research limitations.

Chapter 2

CHAPTER 2: URBANISATION AND LAND RECLAMATION

This chapter aims to define what the land reclamation process is and to provide a framework for this research to analyse the impact of natural factors on the land reclamation process within the scope of everyday life practices. To do this, this chapter initially examines the interrelationship between human settlements and water, as well as the natural processes of land formation, and the impact of artificial land reclamation on urban areas from social, economic, and environmental perspectives. It is crucial to examine the formation process of coastal cities in order to comprehend their distinctive characteristics and to ascertain the relationship between the existing land reclamation process and the city. As this section also pursues a land reclamation process that is compatible with nature, it is vital to gain insight into the existing one.

2.1 Human settlements and their relationship with water

Many cities are expanding at an unprecedented rate and are struggling with the challenges of rapid urbanisation (Angel et al. 2011; Huang et al. 2019). While one-third of the urban population used to live in urban areas in 1950, this has increased to over 55% in 2018 (United Nations 2018). By 2050, it is predicted that around 66% of the world's population will be living in urban areas (United Nations 2018). As a result of this rapid urban population growth, many cities are undergoing a process of physical expansion at a rate that is, on occasion, twice as fast as the rate of population growth (Angel et al. 2011). It is estimated that the urban area especially in developing countries, which was 300,000 km² in 2000, will increase to 1,200,000 km² by 2050 (Angel et al. 2011). In this urbanization process, access to water, and the relationships of cities to their water resources become even more significant as they can determine every aspect of the quality of life in the city (Biswas and Uitto 2000).

Locations in close proximity to water, such as coastal zones, have always been preferred because of their advantageous location, available resources, and opportunities. Therefore, coastal zones have a higher rate of urbanisation and a denser population than other parts of the city (Neumann et al. 2015). About 2.4 billion people, corresponding

to 40 per cent of the world's population, currently live within 100 kilometres of the coast (United Nations 2017). Due to a considerable demand to settle around water sources, many cities have expanded their boundaries towards the water (Van Lier and Steiner 1982a; Hua 2014b; Wang et al. 2014; Martín-Antón et al. 2016; Sengupta et al. 2018; Li et al. 2020). Coastal zones experience a higher rate of urbanisation and denser population than other areas within the city (Neumann et al. 2015).

In case of India, which is the focus of this research, has a substantial coastline stretching 5,700 km on the mainland and up to about 7,500 km when factoring in other coastal features such as islands. This coastal line, known to be one of the longest in the world, is also home to some of the densely populated areas (Nallathiga 2006). Approximately 250 million people live within a 50 km radius of India's 7500 km long coast, corresponding to roughly 3.5 per cent of the world's population (Dhiman et al. 2016).

As evidenced by population statistics, the utilisation and population growth of coastal areas have increased considerably over the past few decades. This has resulted in profound spatial, social and economic changes (Neumann et al. 2015). As coastal areas close to sources of water source have been the preferred location for human settlement, for a variety of reasons, the settlement densification along the coasts is not just a recent phenomenon.

The dependency of human life and human activities on water resources (Vuorinen et al. 2007) is mainly attributed to the abundance of resources along the coasts. The coast, where land meets water, accommodates two very different ecosystems. Coastal ecosystems such as mangroves, reefs, and marshes have natural areas with richer biodiversity. They provide habitat for a wide variety of marine plants and animals and are one of the most vital sources for sustaining human life. The other is the terrestrial ecosystem, where human communities reside. The coastline where these two ecosystems meet creates a dynamic and co-existing environment.

Beyond their rich sources, locations around water also facilitate maritime trade (Neumann et al. 2015) and harbour infrastructure such as ports have been influential in the emergence of many historic and contemporary cities that were known for maritime

trade. Trade ports have played a significant role in the significant physical and social transformation of many small towns as they expand to become large cities, thanks to the welfare that comes with trade (Merk 2013). As a result, many major cities around the world have primarily developed around the ports (Fujita and Mori 1996; Merk 2013); consolidating their status as centres of economic activity (Kolman 2012). Often their growth and development are attributed to excellent access to water and trade routes in the past, even when their ports may not play an active role today (Fujita and Mori 1996).

Water also plays a vital role in agricultural production, thereby affecting food security, and achieving health standards as can also be intertwined (FAO 2009). In coastal regions, seawater agriculture is utilised for the irrigation of salt-tolerant crops, either on land or at sea. The advancement of seawater agriculture represents a pivotal strategy for the mitigation of food insecurity (Lu et al. 2024). In addition, health standards are also an essential factor that increases agricultural and industrial productivity (Mehta 2006) and dependency on fresh water for irrigation and other farming activities is well documented (Atzori et al. 2016). The agriculture sector ranked among the primary consumers of water worldwide (see Figure 2.1), consuming over 70% of the total freshwater consumed (FAO 2009; FAO 2011).

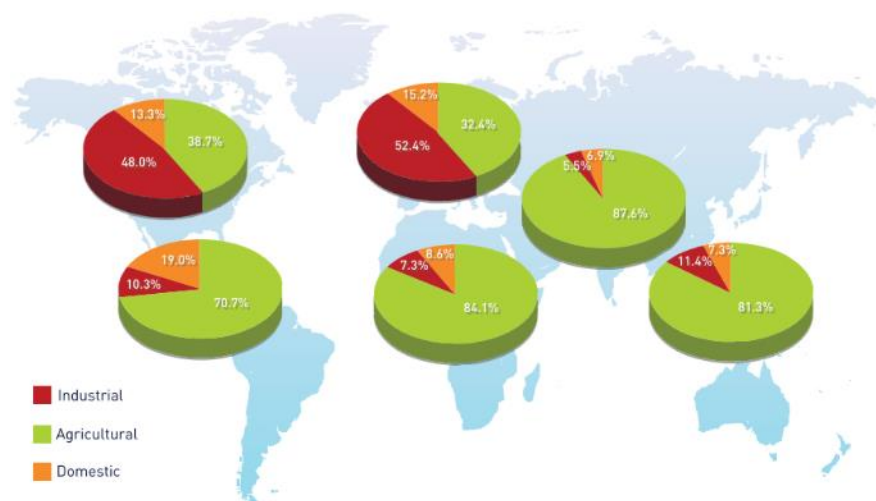


Figure 2.1: Breakdown of freshwater usage in different sectors by country (FAO 2009).

Due to all these reasons, water resources and their management can be argued as critical for many aspects of everyday life and the long-term sustainability of coastal

communities, (United Nations, 2017). Years of urban development have resulted in land shortages in some of them resulting in expansion towards the watercourses which once sustained these settlements, and cities have expanded toward their adjoining rivers, lakes and sea (Van Lier and Steiner 1982a; Hua 2014b; Wang et al. 2014; Martín-Antón et al. 2016; Sengupta et al. 2018; Li et al. 2020). Historically, one of the methods used to expand towards the watercourse is through reclamation. The methods and technologies that facilitate such urban expansion depend upon the practice and nature of land reclamation.

Artificial land reclamation refers to coastal land reclamation, which is more formal as it is part of a large-scale planned expansion to make an artificial structure on the water (Martín-Antón et al., 2016; Ghaffari et al., 2017; Sengupta et al., 2018). If the wind, wave, and other natural movements had accumulated coastal sediment to land, it would be defined as a form of natural reclamation. Conversely, it would be accepted as an artificial reclamation if the land has been reclaimed due to human activities. Sizeable reclamation projects in the city take place artificially after deliberation by decision-makers, architects, city planners or other experts. However, although it is not as short-term and extensive as the artificial one, the reclamation carried out by natural means is also common in cities. The following sections examine the formation of coastal forms through natural processes (section 2.2) and the expansion of city towards the water sources through the use of artificial techniques (section 2.3).

2.2 Natural Land Formation Process of the Coasts

Natural reclamation refers to a reclamation that occurs through natural events in this study. The formation of coastal landforms is the result of a complex interplay between erosional processes and depositional features, including storm surges, waves, tides, and local currents (Ramsar et al. 2014). Waves, tides and winds trigger coastal erosion processes and affect coasts' shapes. Rivers accumulate sediments on the shore through natural forces (Short 2012) such as rain and wind. These coastal sediments can also be delivered to the shore by river currents, wave movements or sea currents (Matt Eliot 2016) with transportation and deposition of materials. The coastal zones are the parts

of the land surface that are affected by marine processes and extend from the landward to the area where the waves interact with the seabed. As a result of a long-term accumulation process, these sediments can turn into beaches, dunes, deltas or barrier islands (Short 2012).

These sediments known wetlands are defined as areas with a high degree of water saturation. This factor is a primary determinant of the types of plant and animal communities found within the substrate and on the surface of the land (FDGC 2013). The formation of wetlands, particularly in coastal areas, provides a multitude of social, economic and environmental benefits to urban areas, as will be discussed in the following sections.

Coastal sediments along the coast help reduce the effects of flooding and play an essential role in the control of floods by regulating the water flow of the region and preventing excess water from inundating the land (Johnstonova 2007; Lahasing et al. 2015). They function as natural basins, effectively storing flood waters and surface water collected in the region (EPA 2006b). They are also crucial ecosystems for filtering and cleaning polluted water, recharging groundwater, protecting coastlines and providing habitats for wildlife (Lahasing et al. 2015). Furthermore, the substrates of wetlands contain a range of minerals that are beneficial to the organisms that inhabit them (FDGC 2013).

Wetlands have a beneficial impact on urban environments in terms of their contribution to human health and well-being. They can also enhance human health and well-being by reducing stress and restoring attention, fostering mindfulness and awareness of one's surroundings, and improving energy and peace of mind, while also reducing anger and fatigue (Kumar et al. 2023). In particular, coastal wetlands are of significant benefit to human well-being and health, providing opportunities for relaxation and recreation (WWT Consulting 2018; Lakshmi 2021) and enjoyment of nature, as well as fostering a sense of community (WWT Consulting 2018).

The protection and sustainable utilisation of wetlands can confer a multitude of economic benefits upon urban areas. These ecosystems are not wastelands, but rather

represent valuable land that should be integrated into urban development and management plans. Wetlands offer a sustainable source of green infrastructure, providing financial stability and employment opportunities while reducing healthcare costs (WWT Consulting 2018). In light of their ecological and social impacts, wetlands play a pivotal role in the national and local economies by generating vital resources, enabling recreational activities, and providing other crucial benefits such as pollution control and flood protection (EPA 2006a).

2.3 Artificial land reclamation process

The artificial land reclamation process involves filling specific areas within waterbodies or wetlands with rocks, soil or cement to create land areas (Stauber et al. 2016). Therefore, it represents a significant transformation of the landscape and requires the commitment of substantial resources in terms of human capital and materials. This land reclamation process is often classified based on the type of area to be reclaimed, its purpose and the techniques employed to reclaim the land. Examples of land reclamation types include wetlands reclamation (Harris 2007; Koroglu 2016), arid land reclamation (Jafari et al. 2018), mining reclamation and coastal land reclamation (Martín-Antón et al. 2016; Tian et al. 2016; Sengupta et al. 2018).

Artificial reclamation works were carried out mainly by governments at first to expand the ports or to expand agricultural lands of coastal cities as part of a comprehensive and land-scale urban development as in the examples of Tokyo (Martín-Antón et al. 2016), Rotterdam (OSPAR 2008) and Sydney (Birch et al. 2009). Land reclamation played an important role in port development through the expansion of an area to support equipment, production and supplies and to accommodate vessels. For example, Sydney Harbor was gradually reclaimed to bring manufactured goods and export agricultural products, beginning in 1788 and continuing until 2002 (Birch et al. 2009).

The history of land reclamation, a process undertaken by humans, can be traced back to the earliest periods of recorded history. Even during the Roman period, coastal areas were reclaimed for agricultural purposes with the construction of dikes to protect

saltmarshes from tidal flows, as evidenced by the Gwent Levels (Rippon 1996; Rippon 1999; NRW 2014). Similarly, Netherlands applied land reclamation for agricultural purposes (Van Lier and Steiner 1982a; Hoeksema 2007). The lakes situated to the north of Amsterdam, Lake Haarlem and the Zuiderzee, were reclaimed for agricultural purposes on a number of occasions (Van Lier and Steiner 1982a; Hoeksema 2007): firstly, during the sixteenth and seventeenth centuries; secondly, during the nineteenth century (Hoeksema 2007); and finally, during the 1950s and 1960s (Van Lier and Steiner 1982a).

However, the drivers of artificial land reclamation that previously served agricultural or industrial purposes have changed considerably over past 30 years (Sengupta et al. 2018). Reclamation has been seen as one of the most influential and prevailing means to obtain new space for cities in many countries such as China, Holland, Japan, and Singapore. For example, due to the existing strict system to protect agricultural lands and land scarcity in coastal areas, local governments in China have regarded land reclamation as a solution to provide new industrial, housing and commercial areas (Li et al. 2020). From 1950 to 2008, 13380 km² of land was reclaimed in China for different reasons, including expanding the salt pan, providing agricultural land and building as the need for the new urban and industrial areas (Fu et al. 2010) as cited in (Wang et al. 2014).

With the development of technology, reclamation projects have not been limited to the shoreline only but also started to be used as a tool to build facilities such as mega airports (airport of Hong Kong, Japan's Kansai airport), residential settlements and resorts (Palm Jumeirah, the Deira Islands) on the water (United Nations 2016). Building an airport through artificial islands is also one of the most common contemporary causes of land reclamation (Martín-Antón et al. 2016). Increased airport capacity is another reason for constructing the airports on the water (Sengupta et al. 2018). Another popular reason for reclamation is resort construction. Since the beginning of the 21st century, a new form of development has emerged on the coast of the Persian Gulf and its surroundings (Ghaffari et al. 2017). This type of development is based on the creation of artificial islands. For instance, Dubai is one of the cities with the most

complex and remarkable artificial island projects, such as The Worlds Islands and Palm Island (Martín-Antón et al. 2016).

2.3.1 Environmental and ecological impacts of reclamation

Historically, first land reclamation works were aimed at tracking environmental issues such as flood prevention, or seasonal agricultural land, which often had some environmental benefits to those living in that environment as in Netherland (Van Lier and Steiner 1982a). In contrast to the benefits of land reclamation in the Netherlands example, reclamations on coastal and riverine development, especially by building artificial islands, were found to result in serious ecological problems, especially in the Persian Gulf. The ecological impact of reclamation can vary, depending on the size of the project, its location, the construction process and the materials used. However, previous studies have pointed out that the land reclamation process can adversely affect the reclaimed area, its natural habitats and biodiversity in and around it (OSPAR 2008), especially in the case of large-scale land. During the land reclamation, many underwater habitats are destroyed, causing harm to corals and marine life in case of costal reclamation. Even when corals are re-habilitated as the part of reclamation project, it was reported that they were found to be unable to adapt to the new environment. Moreover, in many larger reclamation projects, the relocation of corals is often ignored (Medam 2020).

In recent decades, the United Arab Emirates and other countries have undertaken ambitious reclamation studies along the southern shores of the Persian Gulf, aiming to create artificial islands. While these endeavours have resulted in the realisation of grand projects like the Palm Islands, Jumeirah, and World Islands (Ghaffari et al. 2017), the Persian Gulf has been exposed to the degradation of marine species such as coral reefs and pollution following the increase in temperature, salinity and the disruption of the natural flow of water due to artificial island construction (Moussavi and Aghaei 2013).

A key issue in reclamation for urban expansion is how the reclaimed land affects the land use within and around the reclamation. For example, in Penang Island, Malaysia, between 1960 and 2015, the reclaimed area was increased from 0.4 to 9.5 sq.km.

However, the urbanised area increased from 29.5 to 112 sq. km., which is more than 12 times the reclaimed area. The two bridges built during the reclamation in 1984 and 2014 respectively, connecting the island with the mainland further changed the impact and nature of the land use pattern. Thus, the eastern part of the island underwent significant urbanisation, which accounts for 37% of the island's total land area, directly correlating with the reclamation activities that took place there (Chee et al. 2017). Reclamation works carried out for transportation infrastructure such as bridges (Chee et al. 2017) and road construction (Zeballos and Yamaguchi 2011) affect the process of urbanization directly or indirectly. It can be said that reclamation contributes to the emergence of new artificial land and affects its immediate environment, causing the emergence of new urban surfaces within the city.

According to Vanicek, human activities must be aligned with ecological principles to ensure a viable and productive environment for future generations. To achieve this goal, eco-engineering is needed, which is the art, science and practice that makes nature, landscape and natural resources more beneficial to people. The eco-engineering field plays a vital role in addressing the challenges posed by the issue of 'land reclamation and improvement' due to its careful approach to maintaining natural resources (Vanicek 1977). Considering the well-documented adverse effects of land reclamation on the environment and current high urbanisation pressures on cities, the role of eco-engineering becomes more significant in integrating human society with its environment, resulting in mutual benefits for both.

2.3.2 Economic backgrounds of reclamation

Coastal cities can act as catalysts for socio-economic development as they provide rapid spatial and economic growth due to their topographic features. The convergence of the land and sea in these cities creates an environment hosting various development activities, with ports, airports and real estate buildings (Sengupta et al., 2018). Coastal locations provide opportunities for economic activities different from inland. Sectors such as maritime trade, shipping, sea fisheries (Cooper 2009) and coastal tourism (Yang et al. 2021; Ji and Wang 2022; Kenedi et al. 2022) form the backbone of the economy of

coastal cities. Therefore, many coastal and port cities are seen as centres of economic activity, attracting more people to these areas increases economic activity.

One of the strategies to achieve this is reclamation, which involves creating living and working spaces (Kolman 2012). However, to promote this development, reclamation projects should be considered as a whole, with careful land use planning, considerate of all ecological, social and geographical factors included (Zhu et al. 2017). Land reclamation projects include different costs before, during and after implementation. These costs include economic costs such as engineering and construction costs, and ecological, social and environmental costs. Reducing the environmental impacts of land reclamation is important for the overall sustainability of the reclamation project (Zhu et al. 2017).

Reclamation costs appear significantly lower than the potential gains from subsequent tourism ventures (Li et al., 2020). For example, Dubai's economy was traditionally tied to oil reserves, but the government decided that this source of income would not last forever and decided to earn income from tourism. With the advantage of having a hot climate in Dubai, the coastline length has been doubled through reclamation and has turned into a tourism centre with artificial mega projects (Kolman 2012). The outcome of this development approach is evident today and income from real estate and resorts constitute Dubai's leading source of income through artificial island projects that have been designed to boost economic growth by attracting tourists. These projects provide economic growth to the region, but their social impact on the area where they are built and its immediate surroundings is a significant issue that should be emphasized.

2.3.3 Social aspects of reclamation

The social impacts of land reclamation on cities have frequently been overlooked in literature. Discussions have predominantly concentrated on only quality of life from the perspective of social impacts (Gatto 2014; Nadzir et al. 2014). A study conducted on Lake Biwa in Japan claims that the reclamation improves the area's environmental awareness and the urban life of people and if the reclamation work includes elements that encourage urban life, it has a positive effect on urban life if the integration between

the reclaimed area and the city is ensured visually and physically (Zeballos and Yamaguchi 2011). In another study that examined Maasvlakte-2, Rotterdam and Amager Strandpark, Denmark, it is argued that the reclamation related to the investment projects has positively affected the quality of urban life and that recreational land reclamation that provided open spaces and leisure opportunities playing a vital role in the well-being of an individual (Gatto 2014). Similarly, beaches, particularly in Australia, are regarded as tourist hotspots fostering social interaction and contributing to the quality of life, as at Currumbin-Tugun Beach, which has been reclaimed for recreational purposes (Kolman 2012).

On the other hand, flash floods and traffic jams in the reclaimed area negatively affect people's quality of life the most, thereby affecting their health (Nadzir et al. 2014). Traffic congestion, in particular, can cause an increase in the stress level of the residents. Furthermore, if the reclamation project continues for a long time, suspended particles in the air from the construction activities may affect the public's health, especially children and older people (SAM 2019). Another study conducted claims that the land reclamation works gradually carried out especially to obtain a new transportation axis on the coasts of Izmir damaged the relationship between place and memory, resulting in the loss of everyday life practices that constitute urban culture (Yılmaz 2018).

Furthermore, the land reclamation process is the threat of coastal land reclamation over the livelihoods of local communities. Land reclamation projects damaging the marine environment and resources negatively affect the coastal communities that depend on the fishing industry to ensure their livelihood, as in Penang, Malaysia. Hundreds of hectares of fishing areas and marine habitats have disappeared due to the 'phenomenon of ocean grabbing' in Malaysia. Urban development studies in the Penang region have resulted in the reduction or loss of local fishing areas' size (SAM 2019). These projects cause problems in fishing efficiency and income levels. Similar challenges have been observed in Batam in Indonesia, where the number of fish caught by the fishermen has fallen to one-third since the natural balance on the coasts has deteriorated due to reclamation (Priyandes and Majid 2009). Also, local fishermen had to choose longer routes instead of short routes that directly reach fishing areas because of reclamation,

and this will increase travel time, thus causing additional costs (SAM 2019). Many fishermen had to change their professions because of decreased income levels and difficulty adapting to their new professions and lifestyles without experience and knowledge (Priyandes and Majid 2009).

These examples show that the land reclamation process has socio-cultural effects on the city in terms of affecting the quality of life, the relationship between place and space, and the livelihoods of people living in the reclaimed area. To provide more sustainable development, it is essential to consider the inherent complexity between land and sea, the preservation of the harmony between nature, society, and the economy, and the coordination of the relationships between people and land (Zhu et al. 2017) separately before, during and after the land reclamation. In this way, it will be possible to see more clearly the effects of the reclamation on the social structure of the city and to socially improve the relationship between the reclaimed land and the people living on it.

2.4 Natural and Organic Land Reclamation

The formation of coastal cities has occurred in an organic manner throughout history. However, in recent years, due to certain issues encountered as a result of urban development processes, cities have begun to expand towards water resources, with the implementation of additional land reclamation projects, (OSPAR 2008; Birch et al. 2009; Martín-Antón et al. 2016). Although the sedimentary structures of coastal areas, formed by natural processes, are damaged by this artificial land reclamation process (OSPAR 2008; Moussavi and Aghaei 2013; Medam 2020), coastal wetlands are rapidly being transformed into land, despite the environmental, economic and social benefits they bring to urban areas. Artificial land reclamation provides economic benefits to cities and offers a solution to short-term urban problems (Kolman 2012; Li et al. 2020). However, it causes numerous ecological, environmental (OSPAR 2008; Medam 2020) and social problems. (Nadzir et al. 2014; Yilmaz 2018) in urban areas.

There is extensive debate on mega-island projects that are created by artificial means and their current or potential effects on the cities (Martín-Antón et al., 2016; Ghaffari

et al., 2017; Sengupta et al., 2018). Additionally, there are various forms of reclamation studies, including the prevention of salt marshes from being impacted by high salt concentrations (Rippon 1996; Rippon 1999; NRW 2014) and the mitigation of agricultural areas from being inundated (Van Lier and Steiner 1982a; Hoeksema 2007). These endeavours are designed to address environmental concerns in a manner that is harmonious with nature and beneficial to agricultural practices, as exemplified by the Ghent Level (Rippon 1996; Rippon 1999; NRW 2014) and the Netherlands Zuiderzee projects (Van Lier and Steiner 1982a; Hoeksema 2007).

However, the crucial point often overlooked is that places are not only produced formally within the city through reclamation tools but also inhabitants. At this point, critical distinction lies in the production process of the reclaimed land. Regardless of the method or purpose behind the land reclamation process, there is a lack of a comprehensive discussion on the land reclamation process, particularly in consideration of climatic and natural conditions, and in response to the daily living needs of those residing in the area.

The main focus of this research is a specific type of land reclamation, which starts due to natural factors as explained section 2.2 and follows a principle of bottom-up planning that blend harmoniously with its environment. This reclamation type is called 'natural and organic land reclamation' (NOLR) within this research based on the land production process. This land reclamation process was triggered by natural factors such as waves, tides and winds as in natural land reclamation, then shaped by residents' everyday life practices for agricultural purposes and defined by possibilities or constraints dictated by natural factors without centralized planning. The form of the land develops over time and keeps changing according to users' needs and climate characteristics, showing an organic spread over topography. This land reclamation type encompasses both natural land formation and artificial land reclamation process, thereby exhibiting characteristics of both (Figure 2.2). It is therefore crucial to gain an understanding of the two principal processes of land reclamation. As this category of land reclamation is based on natural land formation and subsequently evolved into an artificial land reclamation process, it

encompasses both types of land reclamation. It is therefore necessary to provide an explanation of both natural and artificial land reclamation, and to undertake a comparative analysis of the two. The term "organic" is used in preference to "artificial" because the process is not a planned land reclamation by governments but is carried out informally by people living in harmony with nature.

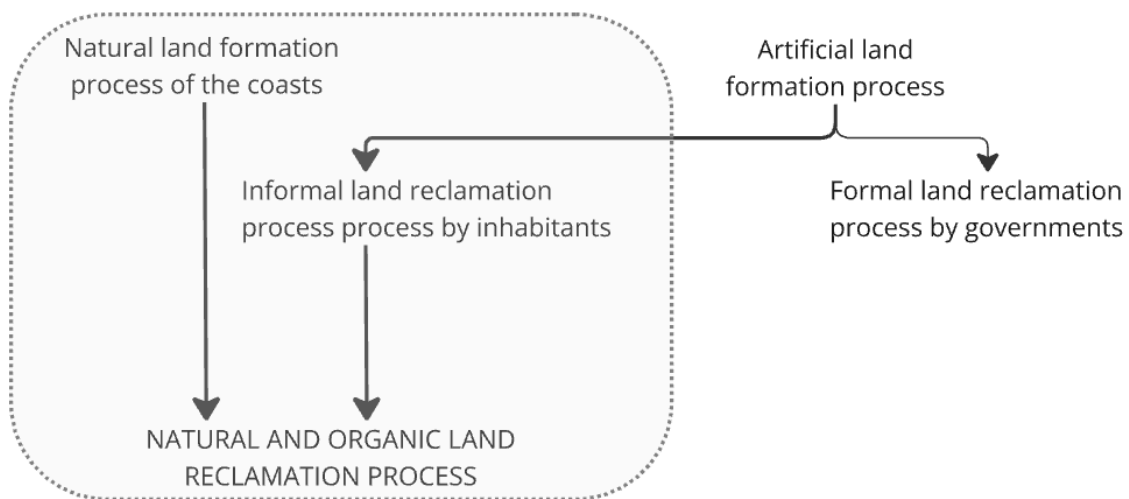


Figure 2.2: Natural and organic land reclamation process.

The reason behind this nomenclature lies in the discussions about organic cities. Throughout history, settlements have been categorized according to their growth patterns: those that grew 'natural' or 'organic', and those that experienced 'artificial' or 'planned' growth (Batty and Longley 1994). Alexander (1965) examines cities under two groups: natural cities that emerged spontaneously over a long time and artificial cities that designers deliberately created. He makes this distinction through metaphor consisting of the tree and semi-lattice structure. While natural cities have a semi-lattice organization, artificially evolving cities are designed as trees. In contrast to the tree structure, the elements that make up the natural cities are intertwined and interconnected in a complex and deep organizational texture called a semi-lattice structure.

Alexander extended his concept of natural cities, which he had previously associated with traditional cities, to the organic unity lacking in modern cities (Neis 2015). However, the organic unity in traditional cities such as Venice or Amsterdam is lacking in modern

cities where architects focus on the problems of individual structures and planners fully engage in local regulations (Alexander 1987). Alexander's organic city, in which life is embedded, is not made of discrete and rigid hierarchical parts of physical units, as in the tree structure; it is a place where it has a structure consisting of overlapping and interconnected parts (Porta et al. 2016).

Organic/natural cities differ from artificial/planned ones in two fundamental aspects: the scale of development and the pace of change (Batty and Longley 1994). They experience piecemeal, coherent and unpredictable growth (Alexander 1987) and have developed spontaneously based on society's needs without international and formal planning at different periods (Karimi 2002), and they accommodate bottom-up development and allow for changes during the process (Schilders 2010). Organic cities also adapt more quickly to their natural landscapes and better reflect the characteristics of the nature in which they are embedded (Batty and Longley 1994) in accordance with the meaning of 'organic', which expresses the natural object that blends harmoniously with its surroundings, rather than seeking contrast (Schilders 2010).

Natural and organic land reclamation has been defined in this research as two stages:

(i) The first is natural land reclamation, which occurs only under the influence of natural factors. At this stage, the initial formation of land takes place under the constraints of natural factors. As discussed in section 2.2, land is formed as a result of the river flow carrying material and depositing it in some areas of the coast under the influence of natural forces such as rain and wind.

(ii) The second is organic land reclamation, which occurs later when people shape the land they live on as a result of their everyday life practices, again under the influence of natural factors. At this stage, there is a self-organizing, community-based, and bottom-up mode of production rather than hierarchically organized as in informal settlements (Dovey 2019). This means that local communities take the initiative to reclaim land from the sea without direct involvement from experts or government decisions. Instead of being driven by formal planning, these projects are grassroots efforts by the people living in the area, aiming to create new spaces and opportunities for themselves. This

land reclamation is utilised for the creation of agricultural areas within wetlands, which are formed as a result of the coastal topography of the region in which it is situated.

2.5 Conclusion

This chapter aimed to define what are natural land formation and artificial land reclamation and create a framework to analyse the impact of various relation processes for this research. In this chapter, the land reclamation process, which is an inherently multidisciplinary research topic, is discussed from the perspective of urban development and provides a detailed background. It is therefore crucial to gain an understanding of the ongoing artificial land reclamation process and its relationship with the environment. This enables the creation of a new framework to prevent the negative effects of land reclamation on cities and the destruction of natural habitats.

Today, in many cities worldwide, large-scale artificial reclamation processes are being carried out to expand the existing urban functions and obtain new ones. Cities of many developed and developing countries are expanding towards coastal or riverside areas for different reasons. Land shortages driven by the demand for land needed for urban development (Zhu et al. 2017; Sengupta et al. 2018; Bisaro et al. 2019), the lack of public urban spaces, unplanned urbanization, inappropriate coastal management, economic pressures, infrastructure needs such as airports, harbours, bridges, ports, desire to protect existing harbours from waves and boost (Bisaro et al. 2019), social and economic development (Zhu et al. 2017) are all different causes which underpin the sizeable reclamation of land in contemporary cities.

Many artificial reclamation projects are designed as part of a comprehensive formal plan, adopting a top-down approach to achieve these objectives. These projects are designed by experts in relevant fields, and their construction begins after approval by the decision-makers.

However, there is another way of land reclamation that departs from the conventional process and has not been discussed before. In the research, this land reclamation type has been designated as 'natural and organic land reclamation', which is the focus of the

research, as a new method after synthesizing the scattered taxonomies of the literature. This particular method of land reclamation is initiated in wetlands that have been formed as a result of the coastal topography of the region in whose vicinity it is situated. Subsequently, the shape of the land is formed in accordance with the daily requirements of the inhabitants of the region. Natural and organic land reclamation carried out for agricultural purposes represents a harmonious integration with the natural environment. It confers a range of economic, ecological and social benefits upon the local area, while meeting the daily needs of those who utilise the land. This is in contrast to the artificial land reclamation projects currently underway, the purpose of which is to accommodate the urban growth requirements of cities. This new land reclamation type is based on local communities rather than experts and governments with the bottom-up planning approach under the influence of natural factors.

CHAPTER 3

CHAPTER 3: DEFINING AND MAPPING EVERYDAY LIFE PRACTICES

A key objective of this thesis is to understand the impact of land reclamation on everyday life practices. This chapter therefore aims to develop a clear definition for everyday life practices from literature. It also identified key concepts to map and document everyday life practices which were shaped by natural factors and unique for selected case studies and facilitate the analysis of their relationships with the land reclamation process. To achieve this, the theoretical framework to understand everyday life practice was developed based on two main concepts the production of spaces and natural factors as well as their interactions (see Figure 3.1). The primary rationale for this conceptualisation is that land reclamation can be conceptualised as a process of the production of space.

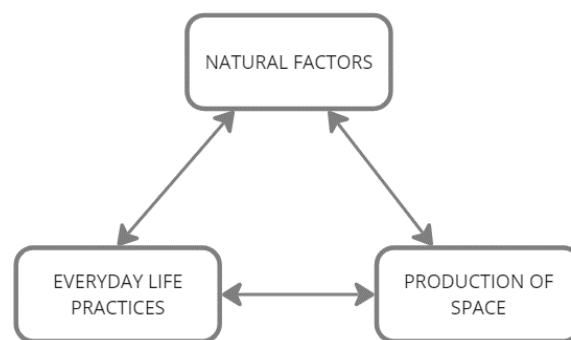


Figure 3.1: Research framework.

In this chapter, everyday life practices and the social structure of the society are examined separately which is followed by a discussion of their interactions to create a framework that helps to answer the key research questions of this research stated in section 1.7.

A conceptual dichotomy rooted in sociology's attempts to understand the relative balance between society's influence on the individual (structure) and the individual's freedom to act and shape society (agency).

(Giddens and Sutton, 2014, p52)

Sociology has witnessed ongoing debates around dichotomy concepts such as agent-structure, society-individual, and micro-macro levels of sociological analysis. The reason

behind the development of the sociology of everyday life (micro sociology) lies in the criticisms against the classical understanding of macro sociology due to its tendency to adopt an overly decisive stance in describing the individual within society. Macro sociology has an approach that highlights the weakness of the individual against structures and that structures transform the individual (Adler et al. 1987). Layder (2006) identifies the most inclusive of the dualities as the macro-micro level, while he accepts the dualism between individual and society as the most basic. In its simplest form, micro-sociology focuses on individuals, while macro-sociology deals with societies and institutions (Kemeny 1976). The main distinction between the sociology of everyday life and traditional macro sociology lies in the subject (knower) – object (known) relationship. Everyday life sociologists rejected the belief in the separation of these two concepts through scientific principles and emphasized integration rather than dualism between them. Unlike macro theory, their focus is on examining people in their natural context. (Adler et al. 1987). In general, those who examine social structures at the macro level often ignore the individuals, in contrast, those who predominately examine the actions of individuals seem to have ignored the overall structure of society (Giddens and Sutton 2014).

Today, the debate between individuals and society has been renewed with the change in the language of the discussion. Giddens' work on social theory between the 1970s and 1980s influenced this change. Following Giddens's new vocabulary, an intense debate has started about the 'structure-agency' distinction (King 2010). It is argued that human practices tend to create structures, and these structures in turn have the power of shaping people's everyday life practices. This implies that agency and structure have a reciprocal relationship based on assuming each other instead of being opposites (Sewell 1992) and are implied by the presence of each other (Giddens 1984; Sewell 1992). On the other hand, some have argued that structure is not always restrictive but enables creative action (Giddens and Sutton 2014).

Agency is used to describe the people's capability of doing things (Giddens 1984), the independent powers of individuals (King 2010), and the ability to exert some control over social relationships (Sewell 1992). People are not victims of the social world and

conditions in which they live, but they are agents that affect the social life in which they are embedded (Layder 2006). Structure and agency refer to a more technical language but are highly similar to the individual-society concept set. Structure refers to large-scale social institutions, but in fact, it implies society. Likewise, agency refers to the powers of individuals, but what it implies is the individuals themselves (King 2010).

Apart from theories that focus only on individuals or society, some seek to explain them together through different frameworks. Bourdieu, Habermas, and Giddens have developed new approaches to overcome these dualities. Bourdieu has dealt with overcoming these dualities of sociology. On the one hand, he pursued the logic of everyday life; on the other hand, he struggled with understanding the relations of power (Power 1999).

At this point, it is undeniable that deciphering the social structure that shapes, manipulates or changes it, is a prerequisite for understanding everyday life. Everyday life practices are distinct in a way that is unique to individuals, but these practices cannot be thought of independently from the society and social structures in which they live and are shaped by them. Lefebvre (2002) claims that everyday life cannot be known without knowing society as a whole and vice versa. To reveal the interaction between everyday life practices, and the structure of society, both must be radically criticized in relation to each other through the process of overlapping.

3.1 Social structure of society

‘Structure’ originally refers to the act of building and the product that results from it. Then, its usage was subsequently expanded from the ordering of the atoms that would create the molecule to the combination of the parts that constitute the biological organism. Sociologists employed this word to describe societies, organised individuals and their actions (Scott 2006). Structure refers to large-scale social institutions and realities (King 2010), the rules and resources that enable social practices to be reproduced over time (Giddens and Sutton 2014). The ‘social structure’ set out by Durkheim, Spencer and Comte is one of the essential concepts of sociology (Durkheim

1960, Comte 2000, Spencer 1879) and is defined by different sociologists with concepts such as class, social organisation, division of labour, and bureaucracy.

The structure of society is often considered to be similar to that of an organism. In a manner analogous to the role of organs in ensuring the continuity of the organism, there are also structures serving a similar function within the society (Durkheim, 1960). In this structure, internal clusters of individuals specialise in specific tasks or activities, as in the organism. (Scott 2006). Similarly, social structure is defined as an organised set of social relationships in which society or group members are implicated (Merton 1968, p 216). The social structure also combines the social dynamics that transform it and the social statics that keep it stable (Comte 2014).

According to Marx, social structure is determined by two concepts: superstructure and infrastructure (Marx 1859). Infrastructure (base) refers to the economic system and relations of production in society, while superstructure refers to social institutions. Marx accepts that infrastructures created by the relations of production are the main determinant of the social structure and its transformation. He says that the relations of production in a society determine the economic structure, which, in turn, determines the social structure (Marx 1859).

Social institution, as defined by Marx as superstructure, is an essential concept affecting social structure (Marx 1859). Institutions at the centre of social structure and structural organization of human activities are defined as systems of interrelated norms (Scott 2006). A society's superstructure includes political, cultural (or ideological), and legal realms (Marx 1859, Scott and Marshall 2009). Superstructure refers to social institutions, including family, morality, culture, art, law, and politics. There is an interaction between these institutions and the structure of the society. Thus, structure is the concept used by sociologists to describe the social environment in which individuals live and to understand society. It also expresses the social institutions such as culture, language, religion and economy and the relations between them.

Similarly, Auguste Comte (2014) explains the social structure through the concepts of 'social dynamics and social statics.' Social statics' refer to social order, and how it is

maintained, and 'social dynamics' refer to how society changes over time. He associates the concept of social statics with the relationships between the parts of a social system and explains the concepts of family, individual, and society. Social dynamics deal with the forces that drive change and conflict in a society (Comte 2014). He posits that the fundamental social unit is the family, rather than the individual (Turner et al. 2012).

Another key concept that affects the structure of society is the division of labour. Durkheim (1960) emphasises the relationship between the division of labour and the structure of society. Thanks to this concept, he explains the differences in structure between traditional and modern societies. According to Durkheim, the form of solidarity that exists in traditional societies is mechanical. In a society characterised by mechanical solidarity, individuals who are homogeneous have common beliefs and values and are strongly connected due to similarities and common values. These similarities create a 'collective conscience' that allows members of the society to cooperate. This kind of solidarity is observed in relatively small-scale societies based on kinship relations and cooperation (Law 2011). Durkheim distinguishes between these two societies based on tradition, emphasising that tradition is less important in societies where organic solidarity prevails (Gofman 2019).

In contrast to mechanical solidarity, there is a more significant division of labour in a society characterised by organic solidarity. Individuals in this society are heterogeneous; individuality and specialization have developed instead of a collective conscience. There is an occupational specialisation; individuals differ due to their different functions (Durkheim 1960). He regards the family as the fundamental unit of analysis in understanding the structure of society (Bynder 1969). Although Durkheim focused on macro-scale analyses, he was interested in the everyday lives of individuals. While trying to examine social facts, he also considered the everyday life of individuals by saying that the change in the forms of solidarity in society is in relationship with the changes in everyday life.

At this point, although the research still focuses on the relationship between everyday life and the production of space, it does not ignore the impact of social structures on

everyday life. Thus, this approach helps to see how everyday life practices shape the space and the underlying factors behind this transformation (Figure 3.2).

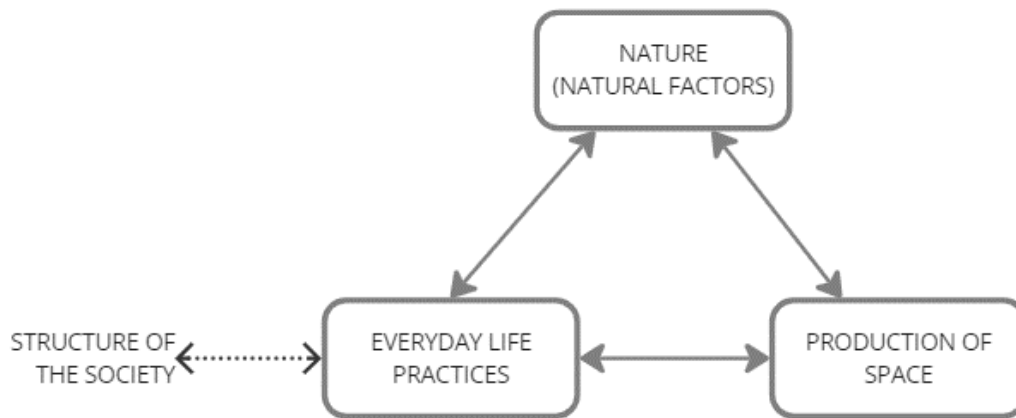


Figure 3.2: Expanded framework of the research*

* The dotted line symbolizes the reciprocal relationship between society and daily practices, thus on space.

The following section introduces the family, which is the primary focus of this research. This concept allows an understanding of both everyday life practices and the structure of society.

3.1.1 Family as a basic unit of society in the Indian context

The family is the oldest social institution (Bau and Fernández 2022). It is regarded as one of the most important social institutions, which is often the place of most of the social activity of an individual (Nam 2004). Family is vital in terms of being the first social environment where people are introduced. However, as in other institutions, the family as an institution also undergoes changes over time. An understanding of the transformation of the family institution enables the analysis of the structure of the society of which it is a part.

In the context of India, historically joint family represents a classic family structure (Mandelbaum 1948a; Sudha Kaldete 1961) with traditional and patriarchal values. The joint family structure remains a pivotal element (Chadda and Deb 2013; Zutshi and Dubey 2024), particularly in rural India, where mutual economic assistance and enduring cultural norms are still highly esteemed (Zutshi and Dubey 2024). Certain conditions are

required to create a joint family legally (Desai 1956). This family, which consists of members up to three generations, is characterised by several features, including a common kitchen, residence, property and purse authority, and social functions (Sudha Kaldate 1961). These six elements of joint family are discussed below:

1. Common kitchen: A communal kitchen where meals are prepared for all the members of the joint family (Mandelbaum 1948, Sudha Kaldate 1961).
2. Common residence: All generations live under the same roof, but each married couple has their own bedroom (Mandelbaum 1948, Sudha Kaldate 1961).
3. Common properties: All properties of the family are held in common (Mandelbaum 1948, Sudha Kaldate 1961).
4. Common purse: The income and expenses of all family members are managed by a common purse (Mandelbaum 1948, Sudha Kaldate 1961).
5. Common authority: The senior male member in the family (usually the father/grandfather), assumes the role of the head of the household and becomes the authority for financial matters. His decisions are generally respected by others (Mandelbaum 1948).
6. Common social functions: Members of the joint family engage in collective activities, including preparations and celebrations for marriage, religious festivals, social occasions (Mandelbaum 1948a), and worshipping (Desai 1956).

The main features above define the typical joint family in India. However, this can vary slightly in different regions and cultural contexts within the diverse settings of India. The area where the research is carried out is a rural community assimilated to an urban area due to the growth of the latter. Therefore, research examines the rural society and its features that distinguish it from that of an urban society.

3.1.2 Urban and rural societies

The population density of rural areas is lower than that of urban areas (Nelson 1948), thus limiting the social network people, however, these networks are characterised by stronger bonds they get to know the people in the same area closely (Nelson 1948). The rural perception of a family often includes distant relatives (Desai 1970). As a result, there are stronger bonds between those living in rural areas, considering the chance of joint families here being distantly related to each other.

The head of the rural family has the ability to take the initiative in matters such as the distribution of work, the arrangement of marriage, and the management of family property, and therefore has absolute power over family members (Desai 1970). There is specialisation and division of labour among family members, especially in agriculture, which is the source of family income (Nelson 1948). The work is shared between them according to gender and age (Desai 1970). Having a common purse causes them to have a collaborative work discipline. The urban family, on the other hand, has a less authoritarian and collaborative structure, unlike the rural family (Desai 1970).

More importantly, the setting in which their social lives are embodied separates rural and urban communities from each other. While the social life in the rural area develops in a rural environment, the social life in the city finds its place in an urban environment (Desai 1970). The livelihood of the rural society is predominantly based on agriculture (Desai 1970; Majumdar 2020), in rural areas, workplaces and homes are often combined. They do not need to commute when compared to communities in the urban area (Desai 1970). On the one hand, it can be argued that living close to the workplace for farmers is a necessity because they have the kind of occupation that requires them to go and check the field periodically depending on the season.

There is a reciprocal relationship between the physical environment and society. While the physical environment shapes the social structure of the society, affecting the population density, occupations and social life in the region, settlements are also outcomes

of the social structures of societies. Concepts related to social structure such as status diversity (Thomas and Robbins 1985), culture (S and Idawarni 2014; Sabaggalet et al. 2023), social ties (Sabaggalet et al. 2023), family structure (S and Idawarni 2014), on settlement patterns affect the formation of settlements. While looking at the everyday life practices in this research, the characteristics of the joint family living in the countryside were considered, whether they create spatial changes or not.

3.2 Everyday life practices

Goffman describes everyday life in terms of its theatrical nature and explains that individuals consciously or unconsciously shape themselves according to how society perceives them as they perform on stage (Goffman 1986). Goffman uses the concept of region to distinguish between the audience and the performer and divides it into 3 parts which are front stage, backstage and off stage within the scope of his approach called 'dramaturgy' (Goffman 1986). With the concept of 'the stage', he also spatialised the place where everyday life is played out. While the stage is the place where the individual exhibits the roles he or she plays, the place where the real identity of the individual lies is the backstage. Goffman interprets everyday life from the perspective of symbolic interactionism by being influenced by Herbert Mead who laid the foundation for 'the interactionism approach' and Blumer who introduced the term 'symbolic interactionism, and the basis of his theory is that everyday life is an area where individuals present themselves.

Differently, De Certeau's conceptualisation of 'strategy and tactics' provides a framework for understanding how individuals resist power structures in society. While the strategy emerges in a particular process, which has specific rules, tactics exist with random, unspecified actions. While the strategy is related to the presence of power, tactics can be seen as an opportunity for the absence of this power. In everyday life, ordinary people react to the strategies imposed by the system and produce tactics to oppose the dominant system. With tactics that emerge in the absence of power, ordinary people develop their own discourse (Certeau 1984). De Certeau points out that there is resistance to this control over everyday life. Against the strategy of the upper

class, the weak ones resist with their tactics. In other words, ordinary people insist on the rules being applied by the authorities according to their own desires.

Lefebvre examines everyday life from the perspective of Marxist theory and sees everyday life as a product of something created by and for capitalism. He draws attention to the existence of structures, forms and functions when describing everyday life (Lefebvre 1987; Lefebvre 2000). The destructive effects of capitalism could be eliminated by thinking critically not only through economics and politics but also through everyday life (Kurtar 2013). Lefebvre said that everyday life forces and convicts ordinary people and they look for ways to escape from this pressure, but they never think of disrupting its structure (Lefebvre 2000). He divided the elements of everyday life into three groups which are: 1) work, 2) family-private life and 3) leisure activities. Everyday life determines the individuals through their combination (Lefebvre 1991a). According to him, leisure and work must be imagined together, because the individuals program their day and how long they will work or not (Lefebvre 1991a).

The most crucial difference between De Certeau and Lefebvre is that Lefebvre accepts the manipulative effect of authority on everyday life. De Certeau does not believe in this manipulative influence and is optimistic that individuals can resist authority. According to De Certeau, ordinary people change this effect in the way that they want, not in the way it is desired by the power. However, Lefebvre says that ordinary people look for ways to escape from this pressure, but they never think of disrupting its structure. They examined everyday life in the context of power and the power relations that shape it. Everyday life is contradictory as it has both liberating and oppressive features.

In this research, 'everyday life' refers to the ordinary, the one that contains repetition. Individuals shape their everyday lives based on their wishes, needs and benefits in a certain routine (such as work and family life following each other). This research also defines 'everyday life practices' as the individuals' repeated actions, practices and experiences. Individuals, through their everyday life practices, resist the strategy imposed by power in everyday life, resulting in shaping the space.

3.3 Research framework to analyse everyday life practices of society

In this research, the everyday life practices that have the power to transform the space have been filtered and subjected to a classification based on Lefebvre's elements of everyday life. Lefebvre has divided everyday life into work, leisure, family and private life but in this research, it is worth examining everyday life under two main parts which are 'work life' and 'family life' to be able to read the production of the space more easily based on the discussion in section 3.2. The other two segments that Lefebvre proposes (private life and leisure time) are included under 'family life' because they are not strong enough to be studied as separate headings, and they manifest themselves in family life for this research.

The land reclamation process appears as the tool of space production, which is one of the components of the framework, as seen in Figure 3.1. This land reclamation process is related to the infrastructure of the society, that is its economic structure. Therefore, it is important to research livelihoods, means of production and transformation in their production methods to understand how this land reclamation process emerged. On the other hand, the knowledge of how this process takes place is embedded in the everyday life of individuals (islanders in the case study of the research), that is, their actions and experiences. Therefore, based on the discussion in 3.1 and 3.1.2, livelihood was selected as a key concept under work life segment to look holistically at both the structure of relevant society from an economic perspective and the everyday life of the individuals who make up that society, to understand how and why the land reclamation process occurs.

In family life, tradition was chosen as a key concept for understanding the family life of the inhabitants for this research, based on the discussion in section 3.1. Tradition is a fundamental component of family life and permeates the entire daily life of the individuals who make up a traditional society. Tradition was therefore examined in terms of its sub-concepts of family structure, kinship practices, religious rituals, traditional knowledge and functions as discussed in sections 3.1, 3.1.1 and 3.1.2. These concepts were identified in below (see Figure 3.3):

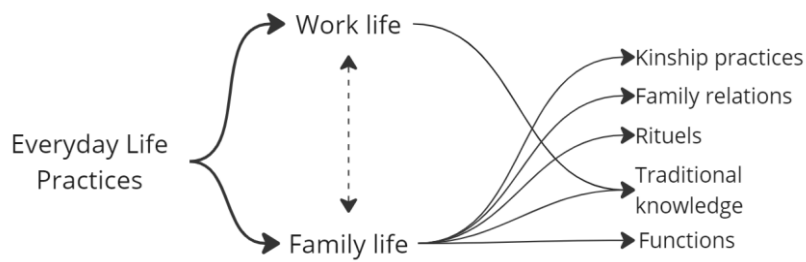


Figure 3.3: Conceptual framework showing key concepts of everyday life practices adopted in this research.

3.4 Conclusion

This research defines ‘everyday life’ as ordinary, recurring situations that are shaped by individuals in a certain routine according to their wishes, needs and interests. What is implied in this research by everyday life practices are the repeated actions, practices and experiences of individuals in the setting in which their social lives are embodied. This research focuses on spaces produced through natural and organic land reclamation processes by everyday life practices of islanders living on two islands within Kochi. The actors called ‘islanders’ in the research are part of a traditional society. Therefore, to understand the everyday life of the islanders, this chapter first tried to understand the characteristics of the communities living as joint families and helped create a theoretical basis for the research for the two islands chosen as case studies.

In this context, this research proposes to examine the life of individuals under two headings: work life and family life. The most important factors that shape their everyday life practices are livelihoods and traditions. Below is the list of sub-concepts under these two main concepts.

Family structure

Family structure has been a frequent subject of examination by numerous researchers, who have discussed its role in both work and family life in the context of everyday life (Bernardes 1985; Rönkä and Korvela 2009; Klocker et al. 2012). Rönkä and Korvela (2009). considers family to be an important aspect of everyday life and analyses this concept through the lenses of emotions, actions, and temporality. Klocker et al. (2012)

establish a relationship between family structure and everyday life through an analysis of gains and opportunities. In addition, the investigation of actions, behaviours and values is employed in order to provide a detailed analysis of the everyday life of the family. The family structure is typically investigated through semi-structured interviews, observation (Rönkä and Korvela 2009; Klocker et al. 2012), diary narratives (Rönkä and Korvela 2009) and surveys (Picot and Myles 1996; Wade et al. 2011).

Kinship practices

Kinship practices have a significant impact on the manner in which people organise and conduct their everyday lives (Allan 2022). The analysis of kinship relations varies according to societal and geographical context. Quantitative analysis tools have been employed to examine the educational status, and size of the family, while quantitative research methods have been used to investigate the change and structure of kinship over time (Blehr 1963; Al-Haj Majid 1995; Guo and Herrmann-Pillath 2019; Suryanarayan and Khalil 2021).

Traditional knowledge

Tradition is defined as a phenomenon that is a part of the daily life of the local people and ensures the transformation of society (Uhlíková and Pavlicová 2014). Concurrently, traditions possess an inherent quality that is not immediately apparent in the context of everyday life. They are transmitted from one generation to the next and serve to meet the needs of society (Aytekin 2019). Some traditions have remained a permanent part of the everyday lives of individuals, while others have been reconstructed depending on the structure of the society and the conditions of the environment (Uhlíková and Pavlicová 2014). Traditional knowledge is defined as the network of knowledge, rituals and traditions regarding the environment in which local people live to preserve their relationships over time (Bruchac 2014). To analyse traditional knowledge, studies have frequently employed a mixed-methods approach, utilising techniques such as semi-structured interviews and observation (Huntington 1998; Inta et al. 2013; Lunga and Musarurwa 2016).

Functions

The term "functions" refers to all activities carried out collectively by members of the extended family, including, but not limited to, marriage, food preparation and celebrations (Mandelbaum 1948b; Desai 1956; Desai 1970). Analysis of behaviours and common uses has often been carried out by researchers using mixed research methods using as walk-along observation, interviews, and surveys (Millonig and Gartner 2008; Cao et al. 2019; Rivera et al. 2021; Wojnowska-Heciak et al. 2022).

CHAPTER 4

CHAPTER 4: PRODUCTION OF SPACES AND EVOLUTION OF SPATIAL MORPHOLOGY OF HUMAN SETTLEMENTS

4.1 Introduction

Spatial characteristics and evolution of human settlement patterns are the main focus of this chapter. As patterns of human settlement are often intertwined with the pattern of behaviour and social qualities of the settlement, this review engages with discourses of the space within the social theory. The chapter first presents the concept of space within the context of social theory. This discussion is followed by an analysis of the theory of "production of space". This chapter then takes a closer look at the definition of urban morphology and how the morphology of human settlements is defined by various researchers from different perspectives to explain the rationale for the adoption of concepts as a research framework for this research.

4.2 Defining space in social theory

Space has been a complex concept defined from different perspectives across various dimensions throughout history. An understanding of "space" can be achieved by examining the changes in its philosophical and mathematical representations (Shields 2013). Since Descartes, various approaches have been employed to address the space connected to the Euclidean or Cartesian system from a mathematical perspective. Especially with the Cartesian system, a mathematical representation of the space has emerged as a result of the seeking for a single mode of representation during the Age of Enlightenment (Ghulyan 2021). Space is regarded as the physical realm of matter with *res extensa* which is one of the two substances assumed by Descartes, abstraction defined by Hegel from the logical-epistemological perspective or an empty surface defined by coordinates as in Euclidean geometry (Avar 2009). However, the dominant understanding approaching the space with the Cartesian concept based on Euclidean

geometry remained in the background after the enrichment of the phenomenology theory (Ulubay and Önal 2020).

Phenomenology is a philosophical approach that is based on the examination of experience and consciousness. In this approach, while the individual in the place is the "subject", the 'object' is accepted as a space during the experience. From a phenomenological point of view, space is perceived as a phenomenon in which the subject and object relations are questioned. Approaches based on non-Euclidean mathematical spaces provide a foundation for re-evaluating the sociality of space (Shields 2013). Space was first questioned as a fundamental field for 'social inquiry and analysis' in the 1970s and has been the subject of empirical research and theoretical conceptualisation by many social science disciplines. Spaces, built environments and the social relations that compose them have been analysed in detail since this date and Simmel drew attention to the importance of space for social relations (Zieleniec 2007) and provided the most comprehensive analysis and theory of space (Berger 2023). Simmel's work focuses on the spatial forms created by social interaction (Fearon 2004). Space is both decisive for the interactions experienced in it and a socially constructed entity shaped by these interactions (Zieleniec 2007). As a result of his passion to categorise spatial reality of social life (Fearon 2004), he put forward five essential features of space that societies should "take into account" in the formation of social life (Simmel 2009) which are boundedness, exclusivity, fixity, mobility, proximity and distance (Zieleniec 2007). Simmel's attempt to classify the crucial aspects of 'space' has been a critical starting point to lay the groundwork for a theory of social space.

The emergence of capitalism and its own unique relations of production were influential in the change of approaches dealing with space after the 1970s. These approaches mainly revolved around the theories of Harvey, Castells, and Lefebvre which are rooted in the Marxist tradition. (Ghulyan 2017; Ghulyan 2021). They analysed the transformation of space through the transformation of production relations. In this context, they sought to determine the role of capitalist modes of production in the emergence of space.

Chapter 4: Defining Production of Space and Spatial Morphology of Human Settlements

In his proposition that *'(Social) space is a (social) product'* (H. Lefebvre, 1991, p26), Lefebvre states that every mode of production organises and produces its own space, in conjunction with social relations. Productive forces, including nature, labour, organization of labour or technology and production relations play an essential role in the production of spaces. In the transition from one mode of production to another, a new space is produced, and then a new space arrangement (Lefebvre 1991b).

'... every society - and hence every mode of production with its subvariants (i.e. all those societies which exemplify the general concept - produces a space, its own space.'

(H. Lefebvre, 1991, p 31)

The space that Lefebvre considers within the framework of production and capitalist relations, which he systematically analyses and sees as a product produced by social relations, is much more than a volume. For him, space is not dead, or stable, but instead, it is organic, fluid, alive and even pulsating, and flowing (Merrifield 2000). The space produced within the capitalist system serves as a tool for both thought and action. In addition to being a means of production, it also functions as a means of control, thereby facilitating domination and power. Even though the forces (state) that brought about the emergence of this space, now try to dominate it entirely and seek ways to enslave it, space finds a way of escape (Lefebvre 1991b). Also, one of the pillars of Lefebvre's famous theory of the production of space is French phenomenology (Avar 2009). Contrary to the Cartesian understanding, the adoption of a phenomenological approach has been influential in Lefebvre's thought of space, which argues that human exists not as an object but through experiences in space and that space has a historical background (Ulubay and Önal 2020).

So what is meant by history? When Lefebvre says that every space has a history, he claims that to understand how the space was produced, it is necessary to look at how it transforms in the historical process. Because space is a product of history, it is not possible to think of a space independent of its past. While saying this, he also refers to

historical materialism. He analyses the space through the social, economic and cultural transformations in history. He claims that social transformations occur in changes in production relations. The emergence of factories, change of power relations and classes have been experienced with capitalism. While the means of production were the land in the past, with the advent of capitalism, machines took its place. Therefore, Lefebvre looks at everyday life and its place in the capitalist system to understand how space is produced through sociality, that is, how social space emerges.

4.3 Production of spaces

‘A triad: that is, three elements and not two. Relations with two elements boil down to oppositions, contrasts or antagonisms.’ (H. Lefebvre, 1991, p 39).

According to Lefebvre, to gain an understanding of space, it must be defined but this definition should be not static. Thus he points to a trialectical understanding of space consisting of the lived space where everyday life practices take place, the perceived spaces where spatial practices take place, and the conceived spaces produced by those who have power. He defined it as a lived, conceived and perceived space (the triad of space) to understand everyday life and space and focused on the production rather than the space itself to explore everyday life (Lefebvre 1991b). Therefore, Lefebvre aimed to construct a unified perspective across disparate fields through the theoretical framework he designated as "unitary theory" (Lefebvre 1991b). As Lefebvre says, an unitary approach to space is needed, and the way to achieve this might be to bridge the space-related dilemmas without exaggerating them (Madanipour and Madani 1996). The interconnectedness of these three realms allows the individual to move from one to the other without confusion. This is only possible by establishing a common language, consensus and code under appropriate conditions and thus creating a harmonious whole (Lefebvre 1991b).

‘The fields we are concerned with are, first, the physical- nature, the Cosmos; secondly, the mental, including logical and formal abstractions; and thirdly, the

social. In other words, we are concerned with logico-epistemological space, the space of social practice, the space occupied by sensory phenomena, including products of the imagination such as projects and projections, symbols, and utopias.' (H. Lefebvre 1991 p 11-12).

Each element of the triad represents a pillar of the production of social space. Lefebvre's space conceptualisation is based on three notions of space: the physical "perceived", the mental "conceived", and the social "lived" space (Figure 4.1). At the same time, Lefebvre uses the expressions of "representations of space", "spatial practices" and "representational space" to describe this spatial triad simultaneously. These two triads contribute to the production of space in different ways depending on the society, production style and historical period (Lefebvre 1991b). The relationships and interactions between the components of the triad provide insights into how people create space in their everyday lives. This triad has been adopted and interpreted by different researchers as presented in Table 4.1.

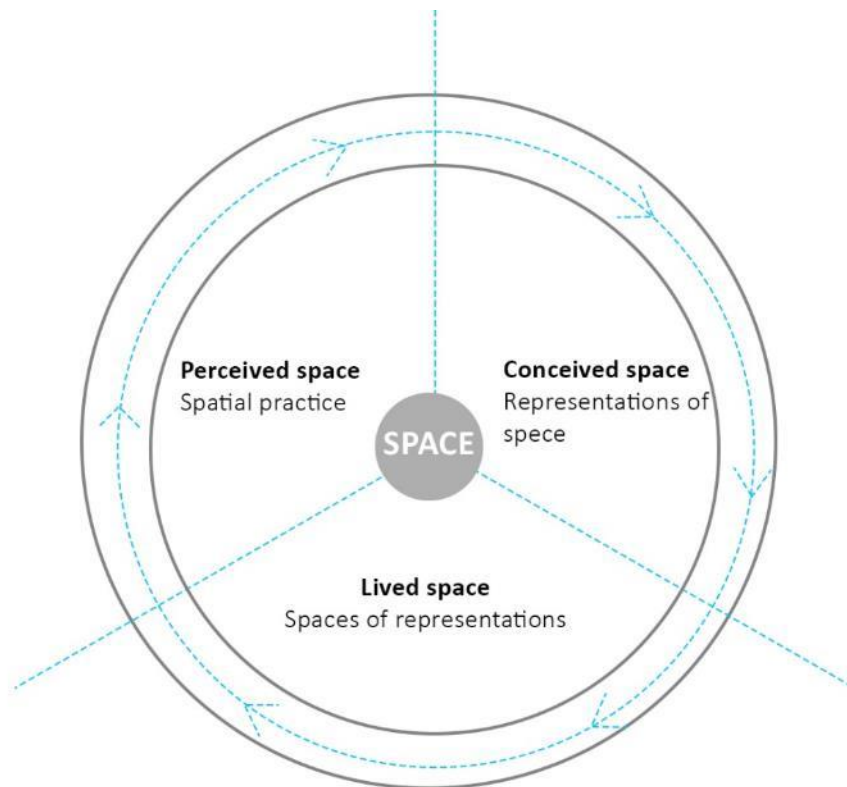


Figure 4.1: Lefebvre's spatial triad.

4.3.1 Spatial practices (perceived space)

Spatial practices are practices that are produced by society and allow direct experience of the space (Lefebvre 1991b). It is both the means and the result of human activity, behaviour, and experience (Soja 1996). Because of this relationship with experience, it is directly related to the perceived space which is the physical form of the space (Lefebvre 1991b). Spatial practices refer to physical and material flows, interactions within and across space (Harvey 1989), and the production of the material form of social spatiality (Soja 1996). This space we perceive is tangible, textured, visible, audible, and olfactory (Carp 2008). It covers roads and networks that connect buildings, private spaces and leisure areas (Lefebvre 1991b).

The mental representation of the conceived space becomes manifest in the physical space that is perceived and begins to be practised by the bodies. The information and rules in the conceived space begin to fade in this space. The mental thoughts of the architect and planner no longer manifest in this space (Lefebvre 1991b). This embodied, socially produced empirical space is open to measurement and definition. It also forms the material basis of the concept that Soja defines as the first space (Soja 1996).

4.3.2 Representation of space (conceived space)

The representation of space can be conceptualised as the space of architects, planners, technocrats (Lefebvre 1991b), geographers, engineers, developers, and urbanists (Merrifield 2006). This representation depends on the relations of production and the order that these relations reveal, and therefore on knowledge, signs and codes (Lefebvre 1991b) to allow an understanding of material practices (Harvey 1989). The conceived space is the space designed in the minds of architects, city planners, professionals and artists such as architectural plans, sections, maps, and perspective drawings.

Chapter 4: Defining Production of Space and Spatial Morphology of Human Settlements

Table 4. 1: Lefebvre's spatial triad in the literature.

	Soja (1996)	Harvey (1989)	Merrifield (2006)	Carp (2008)	Schmid (2008)
Perceived space Spatial practice	materialized, socially produced, empirical space; process of producing the material form of social spatiality (First space)	physical and material flows, transfers, and interactions that occur in and across space	lived reality, include routes and networks, patterns and interactions that connect places and people, images with reality, work with leisure	sequences, habits, and patterns of movement in and through physical places; tangible, textured, visible, audible, olfactory	the material dimension of social activity and interaction
Conceived space Representations of space	a storehouse of epistemological power, representations of power and ideology, of control and surveillance (Second space)	space encompassing all of the signs and significations, codes and knowledge	space constructed by assorted professionals and technocrats; dominant space of any society	conceptualizations associated with tools, methods, systems, discourses, models, images and strategies	act of thought that is linked to the production of knowledge
Lived space Representational space	spaces of representation containing all other real and imagined spaces, real-and-imagined lived spaces of representation (Third space)	Mental inventions	the space of everyday experience.	actual experience of living—space infusing both physical space and mental space	lived experience of space

The effects of dominant production relations, ideology and power are reflected (Lefebvre 1991b) and hidden within this conceived space (Merrifield 2006). This space includes the signs, jargon, and coding that are unknown to the general public and used by these professions (Lefebvre 1991b). It is a dominant space (Lefebvre 1991b), a repository of epistemological power and represents surveillance and ideology (Soja 1996).

The representations of space are abstract, but this does not prevent them from having a role in social and political practice because of their intervention in the spatial textures prepared by influential knowledge and ideology. Therefore, the representations of the space that carry out their interventions through construction have an important role in the production of the space (Lefebvre 1991b).

4.3.3 Representational space (lived space)

Representational space is directly related to the lived space. It is the space of inhabitants (Lefebvre 1991b), the space of everyday experience (Merrifield 2006). Unlike representations of space, the user's space is lived, not designed. Compared to the abstract space of experts, it is the concrete and subjective space of inhabitants' everyday life activities rather than calculations. It is alive and has an emotional essence that is qualitative, fluid and dynamic. Such spaces are not constrained by any rules of consistency or cohesiveness. The source of representational spaces can be tracked back to historical events, whether at the societal level or the individual level within that society (Lefebvre 1991b).

This space corresponds to real-life experience, which nourishes both the physical and the mental realm (Carp 2008) and it is connected with the hidden or underground side of social life through the complex symbols it contains (Lefebvre 1991b).

Representational spaces both have the power to affect the representation of space and have the potential to be a material productive force for spatial practices (Harvey 1989). Lefebvre posits that lived space is distinct from and surrounds the other two spaces (Soja 1996).

4.4 Defining and measuring morphology of human settlements

Urban morphology is defined as the discipline that studies the city as a human habitation (Moudon 1997), deals with the built form of cities (Kropf and Malfroy 2013), examines the material built form of urban landscapes and explains differences in urban form by considering the role of historical processes and social agency (Lilley 2009). Urban morphology has its roots in two fundamental principles: geography and architecture (Kristjánsdóttir 2019). Practitioners in the field of geomorphology, specifically in the field of cultural geography, played a significant role in the emergence of this discipline by representing urban spatial data and classifying and explaining urban forms (Slater 2020). During the 1950s and 1960s, urban morphology was the most prominent area of academic interest among human geographers in the UK and the US (Lilley 2009).

The evolution of urban morphology was advanced by a group of researchers in German-speaking countries (Kristjánsdóttir 2019). From the perspective of architecture and urban planning, the discipline of urban morphology has been associated with the field of urban design by architects in Italy with the aim of clarifying the formation and transformation of urban form. In France, unlike in Italy, architects focused on the reciprocal relationship between urban form and social action (Kristjánsdóttir 2019).

Urban morphology aimed to read these physical characteristics of the built environment that were the result of human activity (Kropf and Malfroy 2013). However, settlements are diverse, complex and versatile, leading to a range of methods and approaches to describe and analyse them. These approaches ranging from broad social, economic and environmental categories focus on the city from different perspectives such as statistical, spatial, formal, historical and aesthetic (Kropf 2009).

Conzen (1960) develops an analysis of urban form through history, using the concept of morphological period. He conceptualises these periods to analyse streets, plots and buildings (Conzen 1960). This approach brings together disciplines interested in defining urban form and prescribing urban landscape, especially the disciplines of geography and history, under the concept of urban morphology (Oliveira 2019).

Moudon proposed a number of different types of classifications to facilitate an understanding of urban form (Moudon 1994) including those related streets, plots and buildings (Kropf 2009; Berghauser Pont et al. 2019). Moudon (1997) classifies morphologically based analysis according to three basic principles: form, resolution and time. The city is constituted by three basic physical elements: buildings, open spaces and streets. These elements are implied by the concept of "form". "Resolution" emphasizes analysing the city at four different scales: building, street, city and area, to understand the urban form. "Time" refers to the way to understand the change in urban form is possible through a historical reading (Moudon 1997) similar to Conzen's historical-geographical approach (Conzen 1960).

Space syntax represents the configurational approach, which is another important approach to urban morphology and aims to understand urban form through analytical methods (Kropf 2009). Hillier and Hanson (1984) analyse the relationship between the morphology of spaces through the space syntax, emphasising the relationship between society and space (Hillier and Hanson 1984). The space syntax method is based on the principle that elements that connect spaces can have a significant spatial presence. For instance, a corridor within a building or an alley in a street network can be considered to have a spatial dimension (Marshall 2005) and includes a set of techniques (justified graphs, convex maps, traces and snapshot maps, justified and visibility graph) for measuring spatial patterns and human activity patterns in spaces at different scales, such as cities and buildings.

Toponymic research is another method to understand the reasons for the transformation of the land through the names of places (Rose-Redwood et al., 2010). When looking at place names from a critical perspective instead of traditional understanding, it is seen that each placename contains important information about the place where the name is given. Analysing this story of the placename reveals vital clues such as the settlement patterns, daily life, and geographic features of the region (Tent, 2015). A study conducted in Hangzhou examined the process of urban development through street names and revealed the history of the city by analysing these names (Chen et al. 2021). Another study analysed the names of neighbourhoods and linked

them to socio-demographic characteristics and the history of the society (McKenzie et al. 2018).

The tradition of place-naming practice mentioned is widespread in India (Figure 4.2). In total, India consists of about half a million villages and a quarter of a million village councils with many wards within itself. Each ward has its unique name (Kapur, 2019). In Kerala, each ward is divided into surveys and plots under itself. Each plot carries its own unique name.

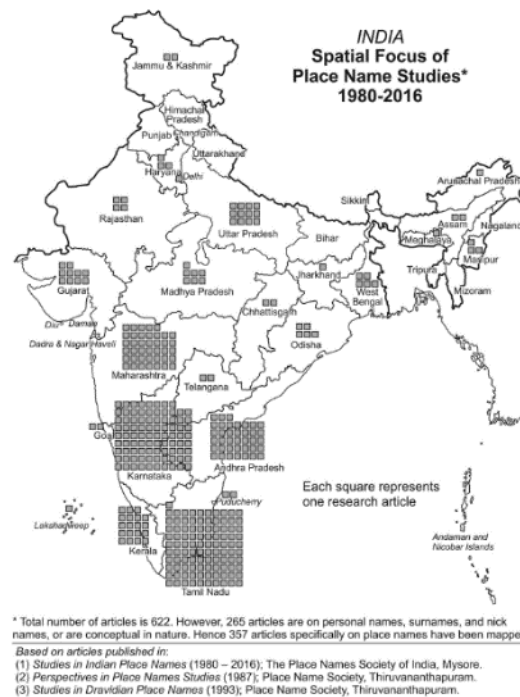


Figure 4.2: Spatial representation of toponymy studies conducted in India between 1980-2016 (Kapur, 2019).

4.5 The influence of everyday life on the spatial morphology of settlements

Lefebvre highlights the social dimension of space production through these three layers of space as discussed in section 4.2, and his main focus is on the ways in which society produces physical space. Moudon also emphasizes that cities are shaped by cultural traditions and influenced by social and economic forces (Moudon 1997). Similarly, Hillier and Hanson (1984) say that society is a spatial phenomenon and that society creates and then organizes its own physical space by occupying certain areas of the world's

surface. They establish a relationship between the arrangement of spaces in buildings and the regulation of relationships between people and indicate that society is recognized through the spaces created and organized by individuals (Bill Hillier and Julienne Hanson 1984). Spaces, especially urban spaces are product of social relations and everyday life practices (Lefebvre 1991b). These spaces includes streets, squares, roads, residential zones, parks with commercial or public amenities, open spaces (İnceoğlu and Aytuğ 2009). They are defined as physical and accessible locations within towns, cities, and rural areas that are open to both foreign and local people and they are responsive to social and cultural requirements of the society (Santos et al. 2021).

Hillier and Hanson also emphasize the effect of places on relations between people (Hillier and Hanson 1984) in contrast to Lefebvre's perspective, which solely highlights the influence of society on space. They point to the existence of a reciprocal relationship between space and society, arguing that just as each society necessitates a distinctive spatial order, each spatial arrangement requires a certain social formation to sustain them (Hillier and Hanson 1984).

Under the social theory, in the perspectives of 'urban sociology' and 'society and space', it is claimed that the form of the environment is the product of social processes, with a 'society first' approach to the society-environment relationship. Hillier, on the other hand, reverses this perspective and seeks evidence of social processes in the built environment through the 'space first' approach (Hillier 2008). As Lefebvre (1991b) expresses, the everyday life practices of individuals and the societies that consist of them shape the space. Simultaneously, there is also the impact of space on everyday life, which has an impact that cannot be ignored.

Ahuja (1980) underlined that the leading factor in the evaluation of the form of settlements is the tradition passed down from generation to generation, allowing it to develop through a process of elimination and adaptation in the Indian context. Therefore, the importance of sociocultural values determined primarily by caste was emphasized in the morphological examination of rural settlements and classified into three groups: settlements of a single caste, settlements of several castes of equal social

status, and settlements of several castes of unequal social status. Furthermore, the morphology of Polish settlements has been discussed from a historical perspective because of the socio-economic changes that the region has undergone. Different types have been identified, such as the early medieval period or socialist and modern period rural settlement (Koter and Kulesza 2006).

Human settlements growing spontaneously are the result of a long evolutionary process (Ahuja 1980). Important research conducted in the Meerut region of India emphasized that land ownership and caste system play an important role in examining the morphological structure of the settlements. The effect of different castes on the site selection in these settlements, the location of the houses and their relationship with each other in the land have been examined (Haimeed 2000).

On the other hand, natural conditions are also effective in site selection, scale and layout of the settlements. This physical space inevitably affects the everyday life practices of those who live in it. For instance, rural settlements in plains areas generally have a larger population and scale than those in hilly areas. In addition, soil fertility, flood risk or accessibility to water resources are effective in the formation of rural settlements (Zhou et al. 2013). Their spatial layouts represent agricultural practices and conventional rural construction concepts and mirror everyday life in rural settlements (Wang and Yuan 2019). Natural factors have both a restrictive and nurturing effect on the formation of settlements and afterwards, they develop under the influence of growth needs by exhibiting distinct regional spatial features (Wang and Yuan 2019). The characteristics of the climate, the structure of the soil, and the availability of water are among the physical factors that affect the morphology of the settlements.

4.6 Conclusion: Framework to understand the spatial morphology of human settlement from the perspective of the evolution of settlement and everyday life

Lefebvre's historical materialist perspective, which includes that every place has a history, implies that to understand how space is produced, it is necessary to look at its transformation in the historical process. To comprehend a long-term spatial

transformation (morphological change) experienced through the land reclamation process that the research has targeted from the very beginning, it has been looked at how the space has been produced historically, using the 'morphological period' developed by Conzen (1960). Thus, transformation occurred through land reclamation has been examined and social, economic and political dynamics that have emerged throughout history have been revealed.

Space is a structure with a mental and material side, but there is a third lived space on which the research focuses the most. These socially lived and produced areas are in relationship with physical and mental structures (Elden 2004). Perceived, conceived and lived space, which are components of Lefebvre's triad offers a comprehensive analysis of the process involved in the production of space through land reclamation in this research. These three components were used to read this space production historically. In a land reclamation process in which individuals take part, deciphering their everyday life practices helps to understand how and why the process occurs. In the case of natural and organic land reclamation, which is the focus of this research, there is a production different from what is required by the dominant relations of production, which conforms to Lefebvre's concept of lived space. There is an illegal production of space by individuals, where their survival instincts and knowledge are manifested as in lived space. This research also uses work life and family life (discussed in section 3.2) where everyday life practices are embodied in the 'lived space'. The perceived space, which Lefebvre attributes as a physical space, is the second most important component for research. This research looks at the physical space that emerged as a result of this land reclamation process. In addition, this research examines conceived space under the space represented by the central and local governments as a result of the planning and implementation decisions affecting the land reclamation process directly or indirectly, using Certeau's (1984) tactic and strategy concepts. In the case of the natural and organic land reclamation process, research looks at the tactics produced by the individuals against the strategies put forward by the local and central government bodies.

Although Lefebvre's space conceptualization provides a basis for research in unearthing the details of how individuals shaped the space through land reclamation, this research also tried to define the effects of space on the individuals' everyday lives as stated in the framework of the research (see Figure 3.1 in chapter 3). As Hillier and Hanson pointed out the existence of a reciprocal relationship between space and society, research also aimed to reveal features of physical space and its effects on inhabitants' everyday lives in addition to the impact of individuals on spaces.

Furthermore, as in the concept of resolution developed by Moudon (1997), this framework is instrumental in identifying spaces produced at three different scales in the case study analysed in this research.

1. Settlement scale
2. Building scale
3. Building component scale

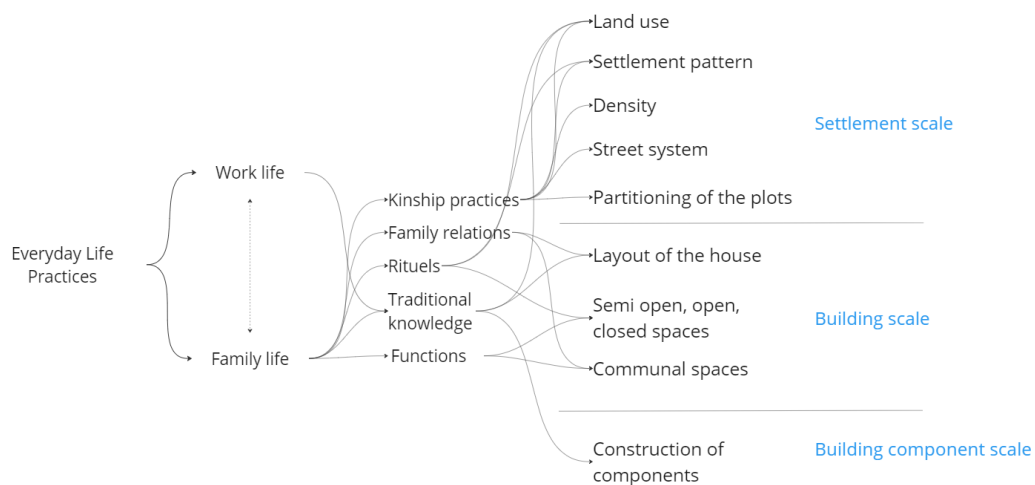


Figure 4.3: Everyday life practices and their impacts on *the* morphology of the settlements.

In this research, land use, settlement pattern, density, street configuration, plot division, layout, and communal spaces are physical dimensions to map the morphology of selected case studies and to understand the relationship between everyday life practices and physical space (see Figure 4.3).

CHAPTER 5

CHAPTER 5: METHODOLOGY

5.1 Introduction

The previous chapters discussed the natural factors that influence the land formation process (Chapter 2), everyday life practices and their indicators (Chapter 3), and the spatial characteristics and evolution of human settlement patterns. This chapter presents the methodology used in the research to measure the impact of natural factors on everyday life practices, landforms and morphology of the settlements and then the impact of these practices on the production of spaces.

This chapter outlines the overall research design, as well as the methods used to develop the research framework, identify case studies, identify relevant data, collect data and analyse them to answer the three research questions outlined in Section 1.7. The overall research is designed in seven phases which are illustrated in Figure 5.1

Phase 1: The preliminary research phase consists of defining the problem, and specific research questions, literature review and development of the research framework.

Phase 2: Research design

This phase includes the theoretical framework that was built by reviewing the literature, producing a designed methodology (desk-based, toponymical, and ethnographic research) based on the framework to understand the relationship between the production of space and everyday life practices in naturally formed settlements and developing research tools. In addition, this phase enabled the identification of reasons for case study selection.

Phase 3: Geo-spatial, qualitative, and cadastral data collection

This phase consists of three main steps which are spatial, archival and qualitative data collection in order. Simultaneously with these three data collection activities, secondary data on climate was also collected. In addition, this phase includes the pilot study conducted to test the clarity of the survey questions and to ensure their reliability and validity.

Phase 4: Data analysis

This phase covers the analysis of all data collected during the research. The data obtained through three different data collection activities have been analysed by triangulating data to verify its accuracy, which is considered one of the research design's most unique aspects.

Phase 5: Results

This phase covers results at three different scales (settlement, building and component) in two different areas (agricultural and residential areas) for two selected case studies (Cheriya Kadamakudy and East Manjanakkad Islands).

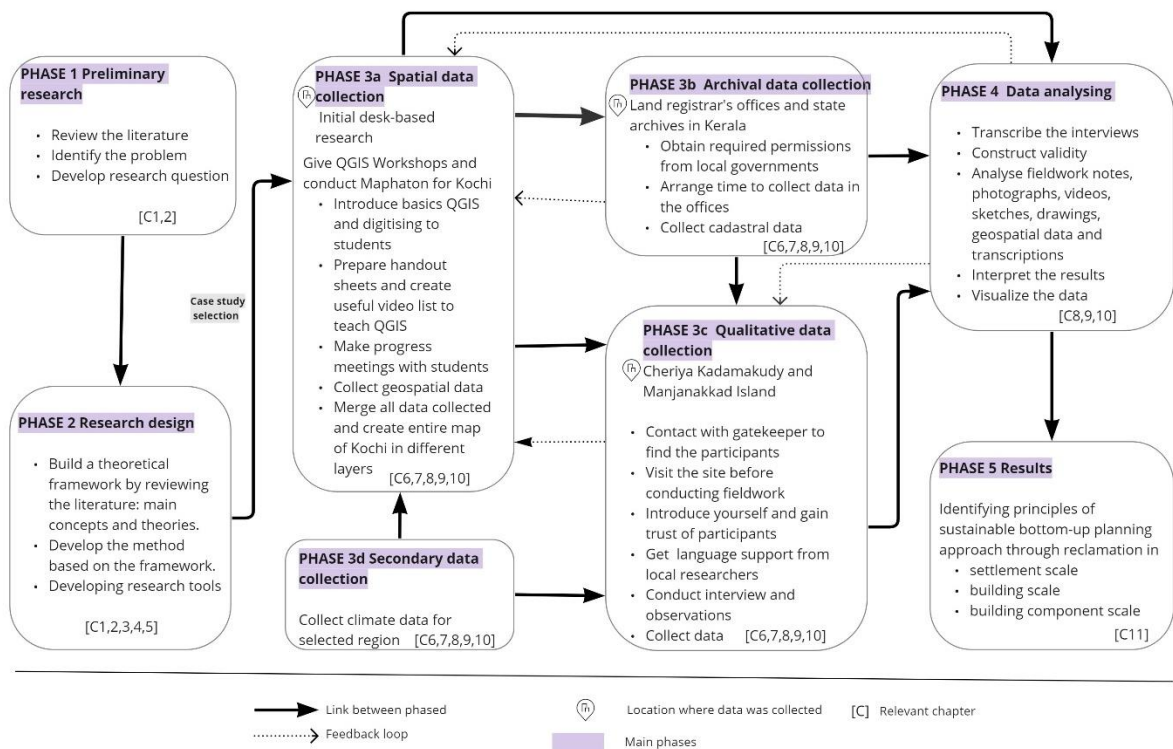


Figure 5.1: Visual Representation of Research Steps.

5.1.1 Case study selection criteria

This research examines the processes of natural and organic land formation, which emerged as a consequence of the influence of natural factors and were subsequently shaped by the everyday lives of the inhabitants. Selection of Kochi is due to its unique formation process through natural and organic land reclamation process, the prevalence

of English as a second language among the general public, the local academic connections from Kochi that have been established in advance, the abundance of secondary resources in English and the ease of access to most of them (see Table 5.1).

Table 5. 1: The criteria for selecting cases for study at the city level.

Cities	Criteria			
	The formation process of city	Prevalent language	Easy access to secondary data	Established academic network
Istanbul, Türkiye	Artificial land formation	Turkish	Yes	Yes
Izmir, Türkiye	Artificial land formation	Turkish	Yes	Yes
Kochi, India	Organic and natural land formation	Malayalam English	Yes	Yes
Alappuzha, India	Organic and natural land formation	Malayalam English	No	No
Purakkad, Kuttanad, India	Organic and natural land formation	Malayalam English	No	No
Dubai, United Arab Emirates	Artificial land formation	Arabic	No	No
Abu Dhabi, United Arab Emirates	Artificial land formation	Arabic	No	No
Ishikawa, Japan	Organic and natural land formation	Japanese	No	No

Kochi consists of 44 islands which varies on location, size, land use, and inhabitants profile. Island shortlist criteria developed in response to the research questions and their justifications are listed in Table 5.2.

Table 5.2: The criteria for selecting islands as case studies.

Criteria	Strategy	Justification
Land use	Island containing agricultural and residential lands	To be able to observe the everyday life practices of the islanders regarding their work and family life together.

Location	Islands locating in the north part of Kochi	To measure the impact of natural factors on the everyday life practices of islanders and landforms of the islands in the northern region of Kochi, which are more exposed to monsoon rains.
Size	A medium-sized island of approximately 40-50 houses	To enable comparative analysis of the influence of everyday life practices on the production of spaces.
Participant profile*	Having participants who are at least 4th generation islanders	To be able to learn about the traditional farming practices of the islanders and their traditional knowledge of building.

* First evidence for having participants who are at least 4th generation islanders was map produced in 1922 (Ryder 1922). Second evidence was presence of paddy fields. According to information obtained from the Survey and Settlement Register, paddy fields began to be built intensively in the first quarter of the 1900s (TRA 1907a; TRA 1907b). This confirmed that the paddy fields have existed on the island for approximately 100 years, during which time farmers have lived there. This information was then verified by visiting the islands that met this condition.

According to the criteria above, two Northern islands were chosen for case studies (Figure 5.2), namely Cheriya Kadamakudy and East Manjanakkad islands (Table 5.3).

Table 5.3: A list of all islands in the estuary of Kochi, based on a set of criteria.

Island name	Land use		Location	Surface area (hectare)	Participant profile
	Agricultural use	Residential use			
Unknown 2	+		North	5.3499	
Pallupurathukad	+		North	56.2833	
Valiya Kadamakudy	+	+	North	170.3692	+
Murickal	+		North	15.8811	
Unknown 3	+	+	North	67.812	
Pulikkappuram	+		North	20.3635	
Cheriya Kadamakudy	+	+	North	26.7664	+
East Manjanakkad	+	+	North	65.7411	+
Cheru Mulavukad	+		North	9.1089	+
Korumkotta	+	+	North	72.1863	
Mulavukad - Bolgatty	+	+	North	421.9862	+

Unknown 1	+		North	5.1952	
Kothad	+	+	North	156.6194	+
Moolampilly	+	+	North	114.658	+
Chandanakkad (Sandalwood Island)	+	+	North	6.2347	
Thanthonni thuruth	+	+	North	35.0369	
Vallarpadam	+	+	North	447.5165	+
South Chittor	+	+	North	403.579	+
Chennur	+	+	North	162.3993	+
Pizhala	+	+	North	154.8603	+
Puthussery Pokkali Padam + Chari- yamthuruth	+	+	North	138.5865	+
Wiilingdon		+	South	768.2949	+
Kumbalam	+	+	South	315.8419	
Cheppanam	+	+	South	239.4296	
Perumpalam	+	+	South	589.4568	+
Vattaveli Thuruth	+	+	South	39.0632	
Amachadi Thuruthu	+	+	South	12.2428	
Unknown 4	+		South	5.864	
Kattikkunnu + Murinjapuzha	+	+	South	179.5413	+
West Vaikam		+	South	3.5012	
Unknown 5	+	+	South	25.6089	+
Unknown 6	+		South	5.0727	
Katikkunu 2	+	+	South	29.4349	
Murinjupuzha 3	+		South	3.9162	
Murinjupuzha 1	+	+	South	16.345	
Murinjupuzha 2		+	South	13.2977	
Murinjupuzha 4		+	South	1.5462	
Achanthuruth 1	+	+	South	27.5966	
Achanthuruth 2	+	+	South	11.5469	
Achanthuruth 3	+	+	South	7.9419	
Panavally 1	+	+	South	10.0294	
Panavally 3	+		South	4.1006	
Panavally 2		+	South	7.4352	
Udayagiri thuruthu	+		South	0.823	

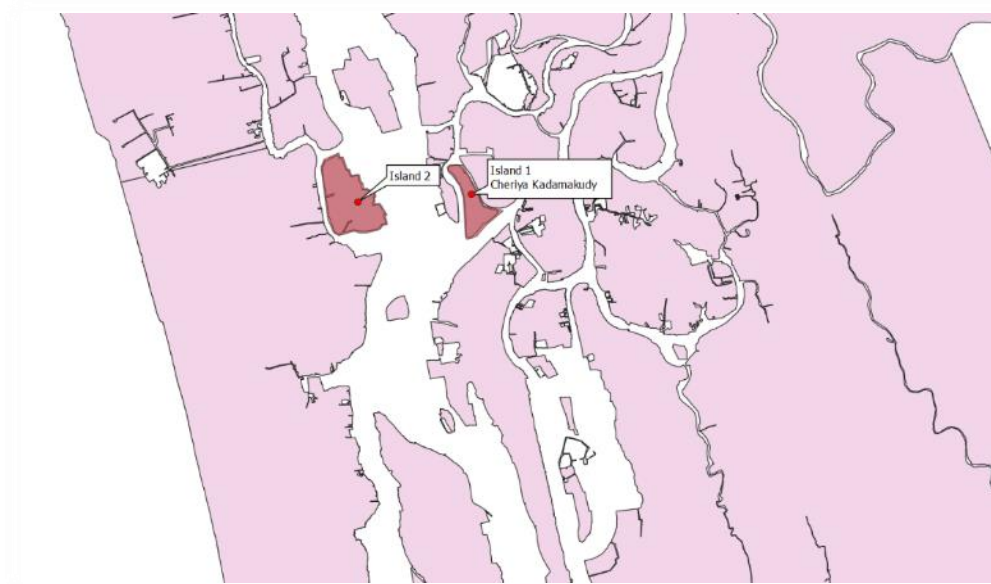


Figure 5.2: Location of selected case study islands.

5.1.2 Participant selection criteria

Snowball sampling was adopted to collect qualitative data in the study due to the nature of the study areas. Snowball sampling is one of the non-probability sample types (Coleman 1958) and a technique for finding research subjects belonging to a small group of people who are likely to know each other through referral (see Figure 5.3). It is a valuable method for obtaining respondents in situations where the number of participants is small or a degree of trust is required to initiate contact (Atkinson and Flint 2001) as in selected case studies. Additionally, it is a viable approach in terms of feasibility where there is no accessible sampling frame, or it is difficult to establish a sampling frame (Bryman 2012). Using snowball sampling strategies provides a way to reach ‘hard-to-reach’ populations such as vulnerable, deprived social groups, even though it contradicts and violates many of the assumptions supporting conventional sampling concepts (Atkinson and Flint 2001).

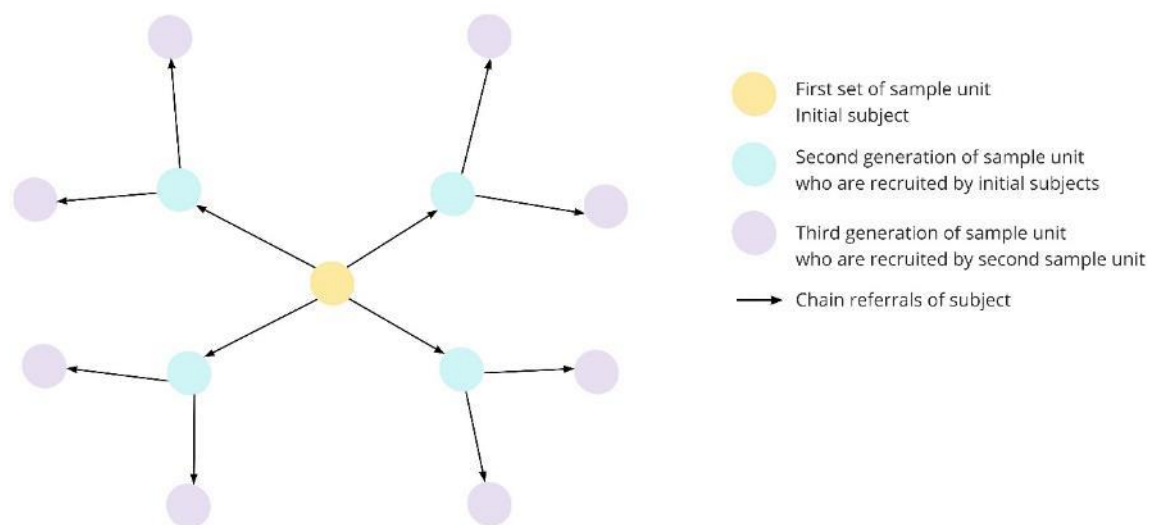


Figure 5. 3: Schematic representation of the snowball sampling technique.

The islands' geographical isolation from the mainland and islanders' lifestyle, characterised by strong kinship ties, have prompted the researcher to employ the snowball sampling process as the most appropriate methodology for this study.

5.2 Research methodology

The nature of this research, which examined both the everyday lives of the inhabitants and the spaces in which they lived, as well as the natural factors that influenced them, necessitated the use of mixed methods. Qualitative and quantitative methods have been used to map the everyday life practices of islanders and their effects on land transformation in selected islands of Kochi over time. Additionally, Lefebvre's understanding of space production as a multidimensional process underlies this mixed method preference in the research. Adoption of the mixed method has helped balance the limitations arising during the research and has allowed triangulation to take place. This designed research methodology is employed to gain an in-depth understanding of morphological change for longitudinal research (past, present, and future), enabling an in-depth exploration of everyday life practices and their transformative effect on land formation from a diachronic perspective.

This research method aimed to respond to how, why and when spaces were produced, capture the complex aspects of space production, and provide insights into them through two case studies. Therefore, a case study is a useful method and the focus of this method lies in progress, setting, and discovery rather than outcomes, determined factors, and confirmation (Merriam, 1998). Therefore, the case study analysis plays a key role in the investigation of this study. This research takes advantage of multiple case study analyses by examining data in-depth from two different cases to understand the similarities and differences in everyday life, space production practices and spatial arrangement.

5.2.1 Documenting everyday life practices of islanders under the influence of natural factors

Ethnography generates or constructs descriptions of how people think, believe, and behave (LeCompte and Schensul 2010). To evaluate everyday life practices of people from the perspectives of the participants, ethnographic research is conducted to examine in detail the social discourses of individuals and the various consequences of their actions (Berg 2001). An ethnographic study, conducted in a natural setting, requires face-to-face interaction with the participants and thus accurately reflects participants' perspectives (LeCompte and Schensul 2010). The objective was to document these practices observed and to ascertain the impact of natural factors on these practices embedded in their family and work lives. To gain insight into the everyday life practices of the islanders living on the islands selected for study, ethnographic research through interviews and observation was selected as the main method for this study. In addition, this research employed archival research to observe the transformation in the islanders' livelihoods (see Table 5.4)

Table 5. 4: Methods used to collect data regarding everyday life practices and natural factors.

	What	Why	Method
Family life	Trace family relations	To measure the impact of the landform of islands on the family structure of islanders	Interview Observation
	Document kinship relations	To identify the impact of landform on kinship relations of islanders	Interview Observation
	Identify rituals and traditions	To reveal the effect of Kochi's unique climate on the rituals and traditions on the island. To bring to the surface islanders' traditions passed down through generations	Interview Observation
	Document functions	To gain an understanding of the impact of the climate of Kochi and the landform of the islands on the social functions on the island.	Interview Observation
Work life	Stage of agricultural practices	To see the impact of Kochi's climate on the stages of agricultural practices of the islanders To identify the effect of monsoon rains, tides and salinity levels of water on the agricultural practices of islanders over time.	Interview Observation Archival research

5.2.2 Mapping land transformation and built environment of islands under the influence of everyday life practices

Mixed methods were used to map the physical characteristics of selected islands. This mapping process was carried out in two areas (residential and agricultural) and at three different scales (settlement, building and component) as defined in the framework. To achieve this, desk-based research was carried out first, followed by observation and interviews in the field. Finally, archival research was used to map the spatial transformation of the area (see Table 5.5).

Table 5. 5: Methods used to collect data on the production of spaces by islanders.

	Area	Scale	What	Why	Method
Built environment of islands	Residential area	Settlement	Document settlement pattern of the residential area Analyse land use Analyse street system Map partitioning of plots	To reveal the relationship between everyday life practices (kinship relations, family structures, belief system) and the space production of the islanders, historically.	Desk-based research Observation Interview Archival research
		Building	Analyse the layout of the houses Map semi-open, open and closed spaces Map communal spaces	To understand the effects of the islanders' family structure on their house layout by looking at the outdoor-indoor or public-private space relationships	Desk-based research Observation Interview
		Component	Identify features of building components	To document the building components shaped by the everyday life of the islanders	Desk-based research Observation Interview
	Agricultural area	Settlement	Document settlement pattern of agricultural area	To reveal the reflection of the change in the agricultural practices of the islanders on the landform and spatial morphology of the islands.	Desk-based research Observation Interview Archival research
		Building	Identify construction process of paddy fields	To understand the spaces created by islanders to control agricultural activities	Desk-based research Observation Interview
		Component	Identify features of components supporting agricultural practices	To document the components produced by islanders to support their rotational farming practices	Desk-based research Observation Interview

5.3 Development of research tools

These three phases of the methodology below complement each other in a reciprocal dialectic manner and interpenetrate:

5.3.1 Desk-based mapping

The first phase of the research methodology aimed to gather geospatial data by mapping Kochi and allowed to gather information about the geographical and spatial aspects of Kochi before conducting a detailed study of the selected islands. The software used to map Kochi was QGIS, a desktop geospatial information system (GIS) application with a free and open-source platform that supports the viewing, editing and analysis of geospatial data. The first data set required for the research phase was a vector map allowing initial analysis of the islands.

Simultaneously with this research, the Welsh School of Architecture's (WSA) Liveable Urbanism Unit (Design Unit of the Welsh School of Architecture (WSA), conducted by Dr Shibu Raman) in the 2020/2021 academic year was in pursuit of remote data collection from Kochi with my support. Three workshops mentioned below (Table 5.6) were organized within the scope of the Liveable Urbanism Unit to create an entire map of Kochi.

Table 5. 6: QGIS workshops' content and schedule.

Workshops*	Dates	Content
QGIS Workshop I	12.11.2020	Introduction, basics of QGIS and digitising Kochi
QGIS Workshop II	16.11.2020	Progress meeting, merging data, checking drawings for accuracy
QGIS Workshop III	17.11.2020	Secondary data, advanced query operations, plugins, basic analysis, merging data

* Workshops were organised and delivered by Dr Shibu Raman, Yagmur Burcu Gunes and Shannan Kamalaneson.

For instance, the map in Figure 5.4 was created collaboratively with the help of approximately 90 people, including March and BSc unit students in the WSA, students and lecturers from SCMS Architecture School in Kochi and organizers of workshops (see Appendix 1 for the map produced by Liveable Urbanism Unit). The determined urban elements (Table 5.7) were drawn and updated with handouts, including basic commands, QGIS's user interface features, and examples of maps expected to be

obtained at the end of the series of workshops (See Appendix 2 for handouts of workshops).



Figure 5.4: Example of map produced from workshop series (map credit: Liveable Urbanism Unit).

The output base map consists of multiple vector features drawn as polygons, lines or points. The map has been drawn as accurately as possible over the current Google satellite image of November 2020. The layers created for Kochi are described in Table 5.7.

Table 5.7: Urban elements of the map produced in workshops via QGIS.

Type of features	Line	Polygon
Urban elements	Road centre lines	Buildings
	Railways	Plots
	Waterways	Road surfaces
		Waterbodies
		Land edges

5.3.2 Archival research

The second stage of the research is an intensive archive study consisting of collecting land registration documents called ‘cadastral data’. Each state in India has its own land registration system operating with different rules depending on the Registration Department. This department records and keeps safe property-related documents like transactions, title deeds, succession deeds, wills, and birth and death certificates. Each

district in the state, as in Kerala, has its own registrar offices under Registration Department. Documents on the plots of the two islands included in the research are available at the Njarakkal Land Registrar's office, Kerala State Archives Directorate in Thiruvananthapuram, and regional archives in Kochi. The data collected from these archives within the scope of the study are as follows as shown in Table 5.8.

Table 5. 8: Information regarding data collected during archival study.

Data source	Data source date	Data collection place	Data collection date	What included	Island
'Survey and Settlement Register of Village (SSR) (No 6: Kadamakudi, in the Cochin Taluk).	1907	Regional archives	03-04-2022	Descriptive memoir of village (situation, area, demarcation, population, holdings, crops, stocks, irrigation, wet grouping, land classification)	CKI
Field Measurement Book (FMB)	1990-1996	Kadamakuddy Village Office	16-12-2021	Plot numbers, sketch maps of each plot	
Basic Tax Register Document (BTR)	1998	Kadamakuddy Village Office	16-12-2021	Old survey numbers, resurvey numbers, plot category, owners name,	
'Survey and Settlement Register of Village (SSR) (No 7: Narakal, Cochin Taluk)	1907	Regional archives	07-05-2022	Descriptive memoir of village (situation, area, demarcation, population, holdings, crops, stocks, irrigation, wet grouping, land classification)	EMI
Field Measurement Book (FMB)*	NA	Njarakkal Village Office	NA	NA	
Basic Tax Register Document (BTR)**	1998	Njarakkal Village Office	08-04-2022	Old survey numbers, resurvey numbers, plot category, owners name,	

* Scanning of FMB and BTR details of East Manjanakkad island was not allowed by the relevant registrar office during archival research, so it was not possible to record sketch maps.

* Only the old and resurvey numbers of the island were noted in the office due to the permission given by the registrar office. By tracing these survey numbers, the SSR of the island was obtained from the General Archives, which includes a map showing the old subdivision of the island.

5.3.2.1 Field Measurement Book (FMB)

Field Measurement Book (FMB) is a sketch of map data showing measurements of individual fields for each survey number in India and stored in the registrar's office, tahsildar office or related state archives. Each plot is divided into several subdivisions belonging to different owners. During the property purchase process, the details of the subdivisions are examined, and the exact dimensions of the land are verified through the FMB. Tahsildar's or the relevant registrar's office is responsible for maintaining the Field Measurement Book and, if necessary, presenting the FMB sketches to the person for review if a written request is made. Field Measurement Sketches were collected for both islands based on the survey numbers. These sketches showed the size of each parcel, how many subdivisions it contained, and the buildings, if any, at the time the survey was done (Figure 5.5).

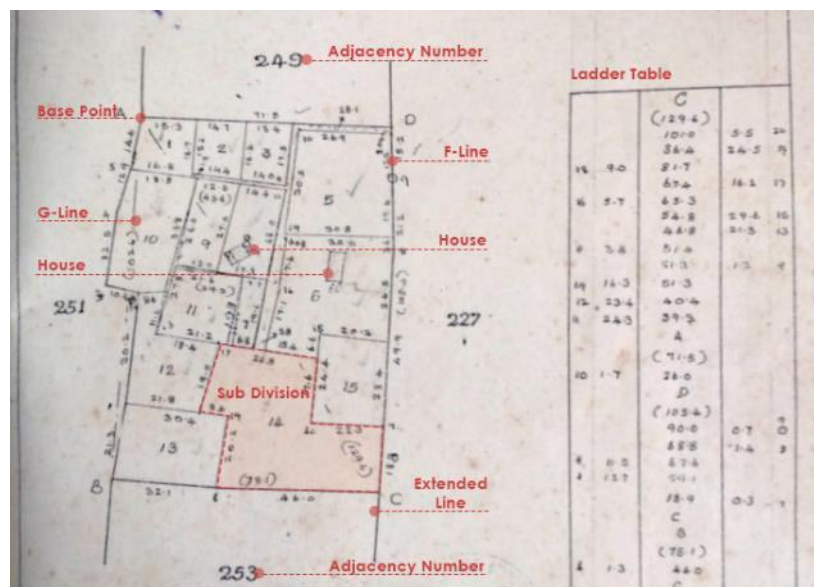


Figure 5.5: Example of sketch map data obtained from FMB.

5.3.2.2 Basic Tax Register Document (BTR)

BTR is the basic tax record for real estate and is kept in registrar offices. It is a document that must be checked before buying land in Kerala because it has vital information about the land. The information contained in BTR and collected within the scope of the study is as follows:

- Transaction of plot
- Plot names
- Plot type
- Plot sizes
- Old and re-survey numbers

The BTR documents were collated by scanning for Cheriya Kadamakudy. For East Man-janakkad, these documents were collated by handwriting in the relevant sub-registrar's offices since it is not allowed to copy data by scanning because of confidential issues.

5.3.3 Ethnographic study

The third and final phase of the research methodology is the ethnographic study, which aimed to collect qualitative data for two islands selected as case studies. The ethnographic research consists of two main parts including observations and interviews.

1. Observation: It was conducted, intermittently, for under 2 sessions including morning and afternoon observations. These observations were made systematically over four weeks. Outside of these periods, the dinner invitations from the islanders were used as opportunities to observe them in their natural settings. These observations, in the role of participant observer, allow the researcher to be involved in the social settings of the islanders and better understand their everyday life practices related to food preparation, washing, setting the table, resting and the relationship between the places where these activities are embedded.
2. The semi-structured interview, which aimed to reveal the everyday life practices of the islanders, covered questions about their daily habits, how they produced

their own spaces, and how environmental factors and natural events affected them (see Appendix 3 for research questions).

5.3.3.1 Sampling process

The steps and strategies followed in the snowball sampling process, which was adopted as it is suitable for the nature of this research, to recruit participants are listed below.

- As there was a lack of demographic information about the islanders, I first started visiting islands to meet the islanders and better understand the natural environment. I realized it was not easy to find the participants randomly inside the islands and I had to build trust with the islanders before I started doing fieldwork. Because both islands were mostly made up of members of several extended families, there was a strong neighbourhood culture between them, and everyone knew each other. As soon as I arrived on the island, I was noticed by the islanders. Because they were not accustomed to having someone other than themselves come to the island.
- I also had two colleagues who would accompany and help me with the translation. These local researchers reside in close proximity to the island, affording them a comprehensive understanding of the region's dynamics (for further details regarding their backgrounds, please see Appendix 16). Thanks to them, I started communication, but the islanders were reluctant to interview because they could not fully trust them. In the first few days of my fieldwork, I had the opportunity to understand the social structure on the islands during the distribution of participant information sheets, which include the purpose and scope of the study, in both Malayalam and English language. After a few days, I asked the government official, whom I had contact with before, who was in close contact with the islanders, for help in reaching the islanders so I obtained initial contacts on both islands and reached other islanders with their references.
- Thanks to the initial contacts, I gained the trust of the islanders and reached other participants. After the interview, each participant was asked 'Who knows

the island best?'. They referred me to the people who are often farmers who had been on the island for years and knew the island's past.

- Interviews and observation studies continued until data saturation was obtained in both selected islands. The data collection phase was terminated until the research question was answered and the data from the participants started to repeat itself. Repetition of data was another criterion used to find the required number of cases (Biernacki & Waldorf, 1981) in the research. A total of 18 people were interviewed on both islands through snowball sampling, 9 from Cheriya Kadamakudy and 9 from East Manjanakkad Island (Figure 5.6).

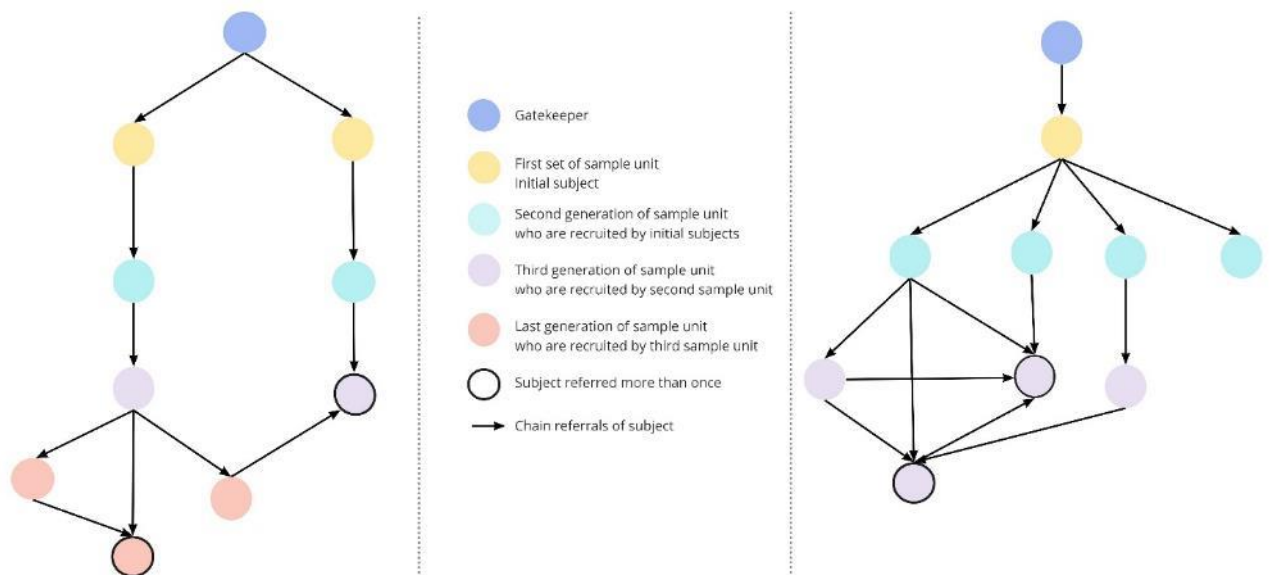


Figure 5. 6: Chain referral in the research (Cheriya Kadamakudy on the left, Manjanakkadu island on the right.)

Probability sampling designs were not used as they do not offer practical solutions to the investigated problem since members of such populations are difficult to access. The underlying reason for this difficult access is an activity that is illegal and seen as socially inappropriate by the community (Spreen 1992). Thus, snowball sampling is an applicable method to focus on issues considered sensitive or private by society and frequently used in deviant behaviour (especially in drug use and addiction) research (Biernacki and Waldorf 1981). Considering the sensitivity and legal dimension of the subject, any details that would decipher the participants' identities were carefully avoided and that is

precisely why pseudonyms were assigned to obscure participant's identifying information, so their nicknames and gender referred to them. When citing research participants, any description that points to their identity was avoided (see Appendix 16 for participants' profiles with assigned pseudonyms) to comply with all ethical agreements agreed upon during the ethics application process (Appendix 4 for ethics approval form).

5.3.3.2 Semi-structured interview

One of the most common types of qualitative research tools is a semi-structured interview which was adopted in this study. It is a research method of collecting memories and personal experiences of significant events historically through recorded interviews between well-informed interview and interviewees (Ritche, 2015) and an effective way to gain in-depth knowledge from participants (Leavy, 2011).

In the interview, each section started with open-ended questions followed by probing questions to understand the islander's feelings more deeply. It is aimed to see the land transformation, whose traces are not found in the literature, and how it was affected by the everyday life practices and space production of the inhabitants, with ethnographic research. It is expected that important clues will be caught by listening to the stories and memories of people and observing their daily lives.

The interviews were planned to last about an hour and a half and consisted of demographic questions that gave initial clues about the participants, followed by open-ended questions about their everyday life practices and what the participants knew transformation of the land they lived in. This semi-structured format was adopted to give the interviewees freedom to discuss land transformation that is sensitive to them and illegal. Interviews were recorded using a Dictaphone, and the conversation started with the participant's verbal and written consent. Participants were informed that they had the right not to answer any questions they did not want and that they could withdraw from the interview at any time.

The interview was held in Malayalam, the mother tongue of the islanders, in which they feel comfortable, with the support of two local researchers who accompanied me

throughout the fieldwork. I asked the questions in English; my colleagues directed my questions to the islanders by simultaneously translating them into Malayalam and vice versa.

- The reactions of the participants to the questions and my reflection on this were noted. Thus, it is important to note the reactions and behaviours to understand whether the participant is aware of what has been asked before or what it means for him. A situation that is sometimes very interesting for research may be something that the participants internalize and that does not attract their attention in their daily routine.
- During the interview, words in Malayalam that I have not heard before, but which are important for the study, dates and place names were noted for further research.

The translations of the interviews were made during the interview and recorded. Audio recording of conversations has provided a portable source that allows multiple listening if needed. All records were transcribed through NVivo and a large corpus of qualitative data was obtained. This transcription process included the questions in English that I asked and the answers of the islanders translated from Malayalam into English by the local researchers during the interview. However, it was critical to ensure the validity of the translations after the interview. After the fieldwork, a two-stage validation process was applied. Firstly, one of the researchers accompanying me on the island was asked to play and translate only the Malayalam parts of the audio recording of the interview, which took place on the day she was not present. The subsequent translation by the local researcher was exceptionally reliable and vital for the research as she knew the local codes of the region and the scope of the research. Secondly, the validity of the translations was ensured by different bilingual speakers translating randomly selected audio tracks after fieldwork.

The result of transcription is a determined product that is not mechanically produced and therefore should not be judged as true or false. Acknowledging the dilemmas of translation and transcription without any claim of seeking perfection of transcription

helps us produce good enough transcriptions or else it adds a layer of complexity to the text (Nikander 2008). For this reason, the translations were compared, and they were checked by paying attention to the fact that the answers given did not lose their meaning and that the questions were correctly conveyed to the participants.

5.3.3.3 Participant observation

Observations were conducted in 2 sessions including morning and afternoon during a month. Throughout the observation, I had a chance to interact with island inhabitants. I cannot speak Malayalam so was supported by two local researchers. I kept a diary, took notes of what I observed, and tried to understand the life on the island. I took photos of the inside and outside of the houses as long as allowed. I noted the parts of the house, their relationships with each other, how many people lived in the house, who built the houses and when. I had the chance to rent a boat and take a tour around the islands with the help of the islanders so I marked the fishing huts and sluice gates on the map in addition to the videos and photos.

Photographs showing the rising tidal water level on the island were taken at different times of the day in the same place. I asked some of the participants to show the paddy fields, and with their guidance, I had the opportunity to see the places where agricultural production was made. I drew the spatial arrangements in the paddy field and the inside of the fishing hut. In addition to the residential and agricultural area, I had the chance to see the sacred grove under the guidance of the islanders, so I had the opportunity to record the routes followed by the islanders for religious purposes.

Observations helped me understand how they lived on the island, how they produced their own spaces, and the impact of their decisions on the production of spaces. During observation photos or video recordings were made after taking the permission. As a result of these observations, an activity list was created, activities mapped and important clues about daily life on the island were obtained. Observations were carried out in 4 different places on the island.

- The first and perhaps the most important one was held in the paddy field. These were areas where the islanders were actively engaged in farming and spent most of the day.
- The second was done in the semi-open and open areas of the islanders spread all over the island.
- The third was done in semi-open spaces of houses or inside their homes as long as they allowed.
- The fourth area was done in the spaces around the transportation arteries of the islands such as the boat jetty.

5.4 Process of analysis

5.4.1 Analysing morphological transformation of islands under natural factors

This research addressed the initial research question, which examined the influence of natural factors on the landform and spatial morphology of the islands, categorising the data into two distinct analysis headings: (1) the formation of residential areas and (2) the formation of agricultural areas. Following the identification of the natural factors influencing the formation of residential and agricultural areas, in the literature, a variety of analytical techniques were employed.

1. A cadastral data analysis was conducted. The old maps from the archive in the Field Measurement Book, Survey Register Settlement Book from the archival research, coastal management plans and military maps were collected. Since there was no digital version, a geo-referenced image was used for old maps and it was scaled through QGIS as seen in Figure 5.7. Subsequently, a comparative morphological analysis of the islands was conducted.

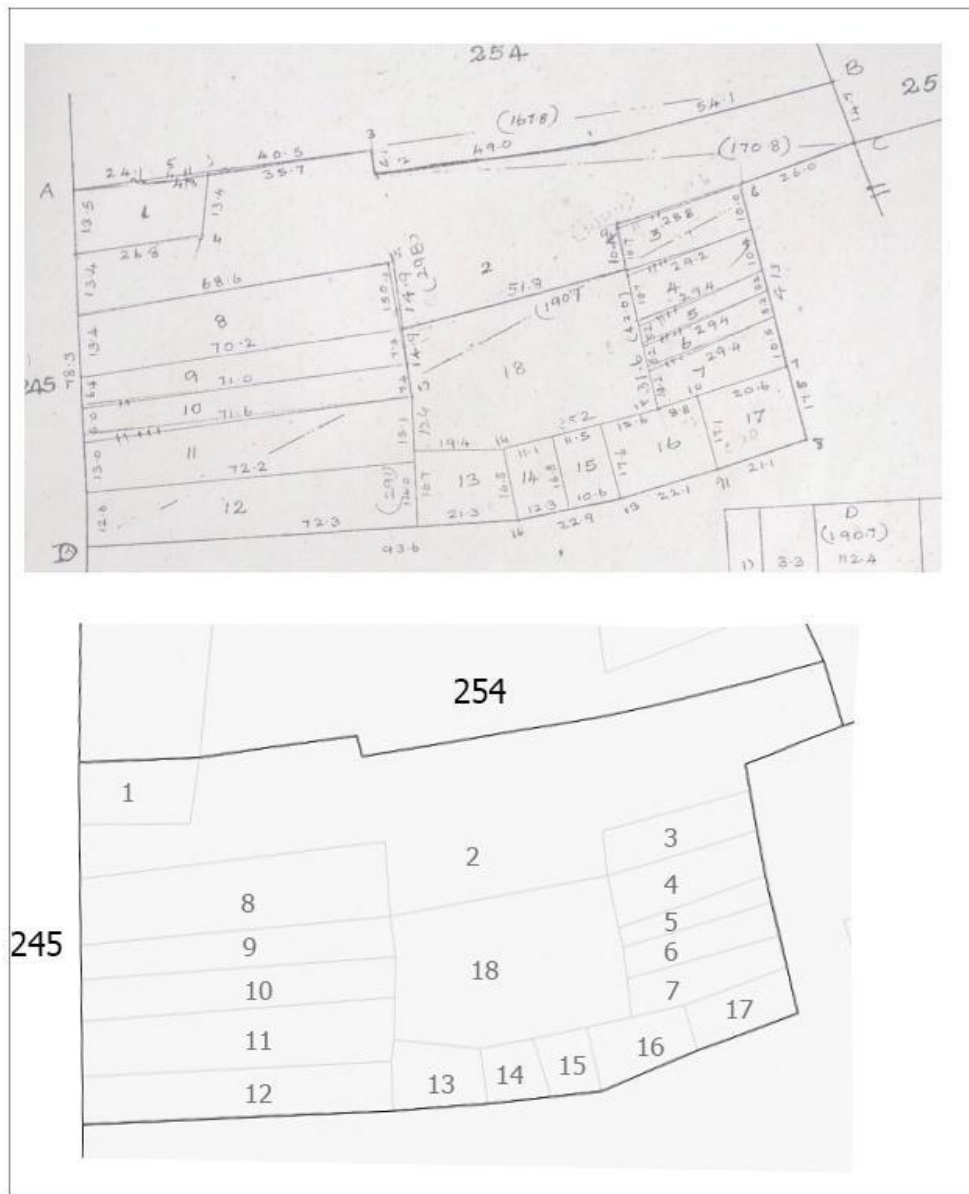


Figure 5.7: Example of geo-referenced image (Source: By author).

2. A series of spatial analyses were conducted to demonstrate the incremental expansion of the island through land reclamation and the influence of the tidal range on the island's topography.
3. The land reclamation process of the islanders, which continues to the present day, was analysed using the codes determined in thematic analysis through observation and interview.

5.4.2 Analysing everyday life practices of islanders under the influence of natural factors

The second research question, which examined the impact of natural factors on the everyday life practices of the islanders embedded in their work and family lives, was addressed through thematic, archival and toponymic analyses.

1. Firstly, a thematic analysis was conducted to analyse qualitative data obtained from observations and interviews with coding. In this way, it was discovered how islanders construct their everyday lives in family and work life as identified in the framework. Furthermore, it gave a chance to see the whole picture of the island by connecting stories. To analyse the data, field notes (see Appendix 5 for an example of fieldwork notes) were used. The interviews were recorded, but at some points, field notes became a handy tool to record behaviours, responses and my reflections. However, the situation is different for observation, as it is impossible to record every moment such as an interview. Field notes, photography and video were used as research tools.

2. Secondly, a toponymy analysis was conducted with the objective of elucidating the family structures of the islanders. This was achieved through the examination of the house names obtained from archival research and fieldwork.

5.4.3 Analysing production of space through everyday life practices of islanders

The third research question, which asks how the islanders create space as a result of their daily lives, has been answered through thematic, spatial and toponymic analyses as stated in the framework, at three different scales in two main areas, namely the agricultural areas and residential areas.

1. A broad spatial analysis was carried out at the settlement scale. To understand the change in land use, satellite images of the years determined for each area were examined. Landsat 8 Image Classification was used on ArcGIS to make land cover classification. The change in the number of buildings constructed and densities in these areas (between 1960 and 2022), the roads and bridges built historically, green and open

spaces, and bare lands were examined. Secondly, settlement register documents obtained from the archive contain vital information about the settlement's history and physical and social structure. These documents were analysed based on registration status, plot types, and plot sizes.

2. Observation was the main tool to observe the production of spaces by islanders at the building level. The islanders' settings, activities and time details during the day were recorded in the field notes. Places where the islanders spent their daily lives were deciphered and classified. Their work areas, leisure areas and houses on the island were mapped. Routes connecting these areas to each other were revealed. Interviews were conducted primarily on islanders' verandas or living rooms of the islanders' dwellings so I could see the inside of their houses. I drew the plan of the houses and marked places of houses in the parcel plan during the observation since all the participants did not consent to take photos of the inside of their houses. These plans were analysed using a G-graph. Therefore, the relationship between their everyday life practices and space was analysed.

5.5 Conclusion

This chapter presents the methods and tools employed in this research, in accordance with the discussions presented in Chapters 2, 3 and 4. All these collected data were analysed in itself, but the most valuable thing for this study was to analyse them by overlapping. Although each data often gives a meaningful result in itself, it is vital to understand Lefebvre's holistic understanding of space to look at the analyses at the beginning of the research. Each of them fills a gap in understanding the production of the space it also provides a validity in itself. In this way, the physical space determined by nature, the space designed by the authority, and the lived space produced by the tactics of the islanders have finally been revealed and the relationship between these spaces and how they were produced in the historical process had emerged. A variety of methodologies and instruments were employed in this research, as detailed in Table 5.9, in order to address the research questions. This chapter additionally summarizes the

snowball sampling process used in this research, the data collection phases, and the analysis process (spatial, thematic, archival analysis).

Table 5. 9: Themes and methods used in this research.

	Themes		Methods
Everyday life practices	Family life	Trace family relations	Interview Observation
		Document kinship relations	
		Identify rituals and traditions	
		Document functions	
	Work life	Stage of agricultural practices	Interview Observation Archival research
Built environment of islands	Residential area	Settlement pattern of residential area Land use Street system Partitioning of plots	Desk-based research Observation Interview Archival research
		Layout of the houses Semi open-open and closed spaces Communal spaces	Desk-based research Observation Interview
		Features of building components	
	Agricultural area	Settlement pattern of agricultural area	Desk-based research Observation Interview Archival research
		Construction process of paddy fields	Desk-based research Observation Interview
		Components supporting agricultural practices	

CHAPTER 6

CHAPTER 6: INTRODUCTION TO KOCHI

The chapter introduces the wider context of the islands such as Kochi's history, climate features, architecture and diverse landforms followed by the urbanisation process. Then it presents the Coastal Regulation Zone (CRZ) notification and the land reform.

6.1 Early history of Kochi

Kochi is a historic and the largest port city in Kerala, located on the southwestern coast of India (see Figure 6.1). The early development of the port of Kochi is related to a major flood from the Periyar River in 1341 AD (Malekandathil 2001; Sam and Agnihotri 2021). Due to this flood, the natural harbour in Kodungallur was destroyed, causing the loss of trade activities (Malekandathil 2001). Simultaneously, a massive flood in Periyar destroyed a large piece of land that created Kochi's sea mouth and natural harbour, considered a landmark, and milestone in the history of Kochi City (LSGD 2010; Malekandathil 2001; Raphael. P and Kasthurba 2012).



Figure 6.1: Map showing the location of Kochi in Kerala, India.

Afterwards, in the 15th century, Kochi continued developing around the Mattancherry settlement and became a trade centre, especially for Chinese and Arab traders (Raphael. P and Kasthurba 2012). Due to the strategic position of Kochi, the city was subjected to three foreign invasions: the Portuguese in the sixteenth century, the Dutch in the 17th century, and the British in the 19th century (Zeba, Indro, and Sandeep 2018). All these developments throughout history, have contributed to making Kochi an important port, trade, and transportation centre for centuries. In parallel, being a port city has played an essential role in its urbanisation process.

6.2 Climate

Kochi's climate is best described as tropical monsoon with heavy rainfall and distinct dry and wet seasons. Due to its proximity to the equator, the city is characterised by high humidity levels and heavy rains during monsoons. In Kochi, the winter season is between December and February, while the summer is between March and June.

Table 6. 1: Monthly climate data of Kochi (Source: climate-data.org).

Seasons	Months	Avg. Temperature °C	Humidity (%)	Rainfall mm	Number of Avg. Rainy days
Summer	March	28.2 °C	75%	66	12
	April	28.1 °C	81%	177	19
	May	27.3 °C	85%	337	20
Southwest Monsoon	June	25.9 °C	89%	568	21
	July	25.5 °C	89%	514	22
	August	25.4 °C	89%	379	21
	September	25.8 °C	87%	264	20
North-east Monsoon	October	26 °C	87%	303	20
	November	26.2 °C	84%	169	15
	December	26.2 °C	79%	56	7
Winter	January	26.5 °C	75%	22	4
	February	27.3 °C	74%	27	6

The remaining monsoon season, characterised by comparatively higher precipitations, is then split between the northeast monsoon (October-December) and southwest monsoon (June-September), presenting varying rainfall levels. While there is significant rainfall

throughout the whole year in Kochi, this phenomenon peaks during the monsoon period around June time, being at its lowest in January (Table 6.1).

6.2.1 Monsoon rains

Kerala has two monsoon seasons which are southwest summer monsoon between June and September and northeast monsoon between October and December. The southwest monsoon season affects the entire India, while the northeast monsoon affects the southern peninsula including the state of Kerala (Sankar et al. 2023). According to researchers who have studied historical rainfall series in Kerala, the light rains that characterise the pre-monsoon months and the heavy rains that dominate the southwest monsoon season vary from year to year (Ananthakrishnan and Soman 1988; Thomas and Prasannakumar 2016). The southwest monsoon rainfall was intense from 1901 to 1930. However, the mean annual rainfall over Kerala has shown a declining trend since 1951 (Krishnakumar et al. 2009). In this range, heavy spell of rain with a duration of 30 days or more and mean rainfall in excess of 10mm were observed in 1904, 1916, 1920, 1927, 1935 and 1949 (Ananthakrishnan and Soman 1988) as shown in Figure 6.2.

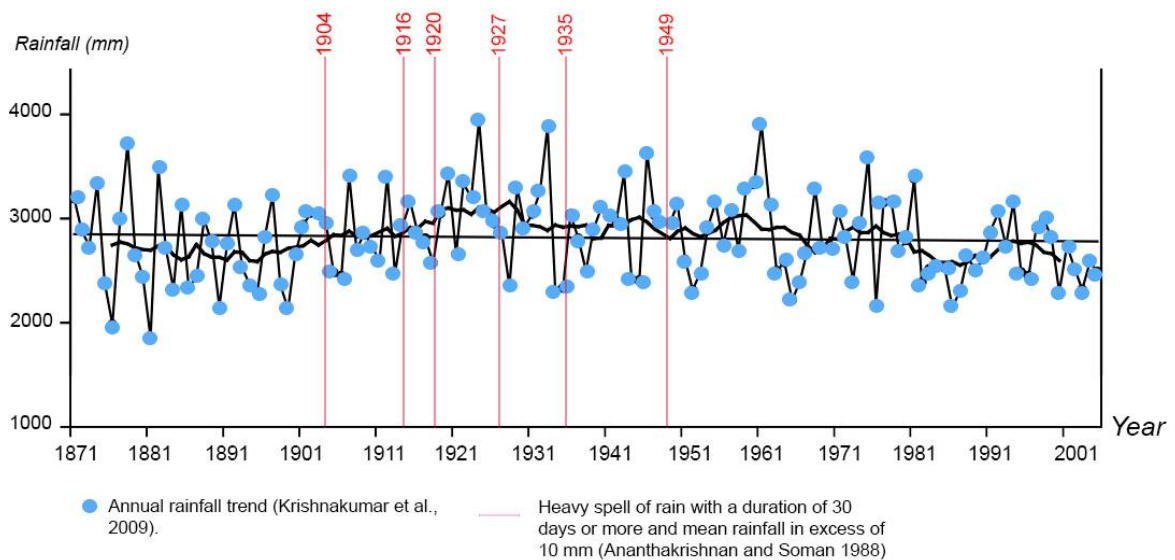


Figure 6. 2: Annual rainfall trend (*Krishnakumar et al. 2009*) and duration of rainfall of onset spells (heavy rain) over south Kerala (*Ananthakrishnan and Soman 1988*).

Kochi which is located in Kerala has been subjected to sea level rise and severe flooding over time (see Table 6.2) due to heavy rainfall during the monsoon season and the parallel blockage of the canals. In particular, the 2018 Kerala floods caused massive damage in the state,

resulting in the death of 483 people (Thomas et al. 2023) and directly affecting 5.4 million people in Kerala (GoK 2018).

Table 6. 2: Major flood events in Kochi.

Name	Source
1341 Kerala floods	(Rajendran 2019; Sam and Agnihotri 2021; Trias 2012)
Great Flood of 99 (July 1924)	(GoK 2018)
2018 Kerala floods (August 2018)	(GoK 2018; K.B. Binila and Department 2021)

6.2.2 Tides

Tides are vital ecosystem services supporting agricultural activities in Kochi. They facilitate the removal of salt from the soil, thereby providing growth of flora in the fields. On the other hand, tides represent a significant natural process that can result in coastal erosion, thereby causing the gradual displacement of the coastline towards land (Parthasarathy and Natesan 2015).

The tides in the Kochi backwaters exhibit a semi-diurnal pattern (see Figure 6.3), with two highs and two lows each day that are not of equal magnitude (Revichandran et al. 2012). Estuarine systems, as in Kochi, have a more complex tidal cycle due to exposure to currents from both the sea and freshwater. This tidal cycle affects a number of environmental factors, including temperature, salinity, alkalinity, and dissolved oxygen (Qasim and Gopinathan 1969).

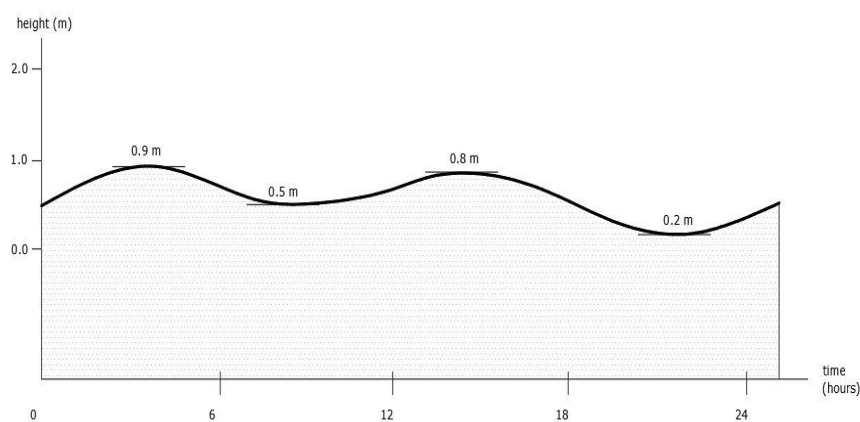


Figure 6.3: Change in water level due to tide in Kochi on August 2022 Source: (Tides4Fishing 2022)

In Kochi, the highest tide level reaches 1.2 metres yearly, while the lowest drops to zero. The highest tide levels (between 1.1 and 1.2 metres) are observed from November to February, a period that roughly coincides with the winter season in Kerala. The highest low tide levels are seen between August and December, from the end of the monsoon season until the fall. Conversely, the highest yearly tidal range value is observed in July and August, during the monsoon period (Tides4Fishing 2022). The study conducted between 2007 and 2008 found that the maximum tidal range in Fort Kochi during the spring season was 65.22 cm, while the minimum tidal range was recorded as 13.44 cm, approximately 40 km from Fort Kochi (Revichandran et al. 2012).

6.2.3 Salinity of water

The backwaters of Ernakulam, which encompass the selected case studies, are subject to the influx of saline water throughout the year due to their proximity to the river mouth and the sea (Joy 2013). The salinity levels in the backwaters of Kochi vary according to the number of nearby freshwater discharges from the upstream river at the time of the year. Salinity levels fluctuate between three different periods: (1) the post-monsoon period, characterised by gradual increases in salinity, (2) the pre-monsoon period with high salinity levels, and (3) the monsoon period with low salinity levels (Table 6.3).

Table 6. 3: Salinity values based on seasons in Vypin, Kochi (*ICMAM 2002*).

Season	Pre-monsoon (February-May)	Monsoon (June-September)	Post-monsoon (October-January)
Salinity value (salt per kg water/ppt)	21-31 ppt	2.16-17.98	25.64-33.29

In the dry seasons (pre-monsoon and post-monsoon), salinity values are comparatively higher due to the lower flow of fresh water originating from upstream sources (Western Ghats). In the monsoon season, the salinity in this region is reduced due to the dilution of salt in the backwaters by monsoon rains, which facilitate the flow of freshwater from inland areas towards the sea. Nevertheless, even when the salinity level in Kochi is at its lowest, the conditions remain unsuitable for traditional rice cultivation.

6.3 Agriculture

Rice is the staple diet in Kerala, like many parts of the Asian continent (Hu et al. 2016). Rain-fed areas, such as the low-lying lands of Kochi, are the most suitable for rice farming. However, Kochi's backwaters and soils are exposed to saline infiltrations from seawater throughout the year, which is undesirable for paddy cultivation. If the amount of salt in the environment is high, the amount of energy spent to get the water into the paddy increases, adversely affecting the yield.

Pokkali rice is claimed to be the oldest (approximately 3,000 years) rice variety cultivated in Kerala, mainly in water-logged fields in the region around Kochi (Anjana 2020; Joy 2013; Shamna and Vasantha 2017), and has been one of the most significant sources of income for local farming communities. In the high salinity waters of Kochi, only a particular type of salt-tolerant rice crop named *Pokkali* can be grown. Pokkali rice is salt-resistant and withstands high temperatures and humidity, thus surviving monsoon floods, as well as other coastal conditions (Anjana 2020; M John George and Mumthaz 2017; Mohan and Prasanna 2019; Ranjith et al. 2019).

High salinity levels limit the growth and productivity of crops, including rice, and reduce yields. Nonetheless, Pokkali can easily grow in Kochi's low salinity period, where a traditional paddy cannot grow. A study conducted in Kochi's wetland (Deepa 2014) revealed that the salinity of the water during the paddy cultivation season exhibited a range of values between 0.4 and 1 ppt. During the transition period, the salinity of the water exhibited a range of values between 8.8 and 12.5 ppt. During the prawn culture season, the salinity of the water varies between 14.9 and 21 ppt (Deepa 2014). Pokkali is resistant to the salinity of approximately 6-8 ppt (Francis, Focken, and Becker 1999) when the agricultural irrigation limit is 2 ppt as seen in Figure 6.4.

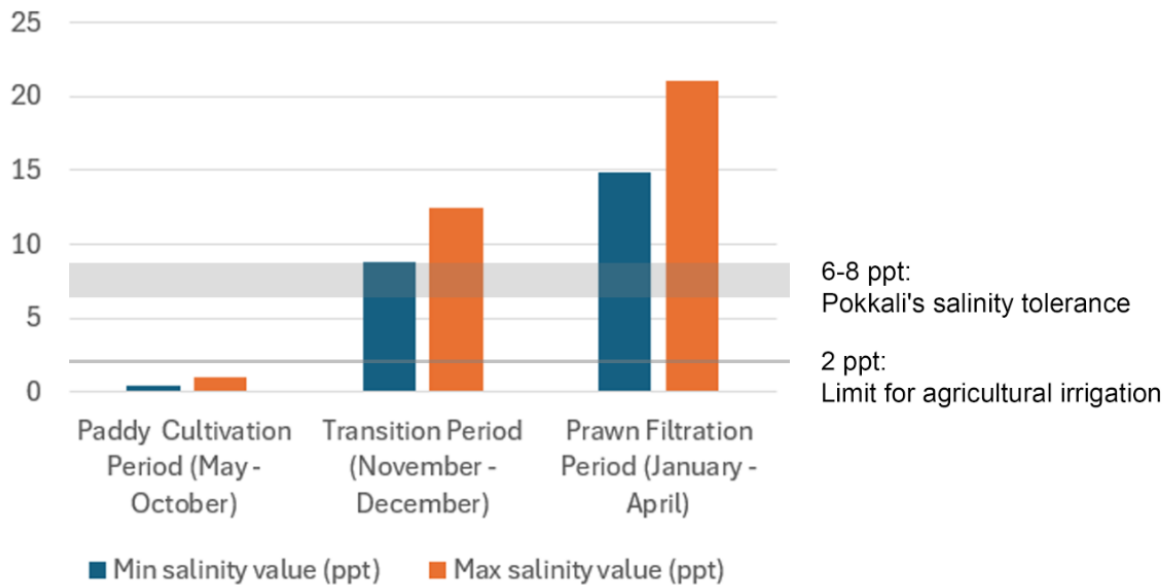


Figure 6. 4: Average salinity values (ppt) from five Pokkali fields of Ernakulam district (Deepa 2014), agricultural irrigation limit, and salinity tolerance of Pokkali*.

*Limit for agricultural irrigation (2 ppt) and Pokkali's salinity tolerance (6 – 8 ppt) (Francis, Focken, and Becker 1999) were added by the author to the table created by Deepa (2014).

6.4 Traditional knowledge for building

Vastu Shastra is the ancient Indian science of architecture that originated in the Vedic times (1750-500 BCE). Vastu Shastra has been developed over a period of at least 2500 years, producing a large number of texts that contain guidelines and rules for building construction. It is based on how the human body relates to buildings and the universe through architectural practices (Patra 2009), and aims to annihilate negative energies and intensify positive energies for those living in the buildings designed according to its rules (Suriyanarayanan et al. 2016), to ensure peace, prosperity, happiness and protection from troubles (Barodia 2019).

Residential buildings in rural areas in India are built not only by specialists such as architects and engineers trained in the modern system, but also by practitioners, artisans, or Shilpi, trained building according to the traditional systems of the region. Additionally, since there is a strong awareness of Vastu Shastra practices among the people, even architects who adopt a modern approach must consider related principles while designing and constructing their projects (Thampuran 1994). Local craftsmen and carpenters have played a role in shaping the vernacular architecture of Kerala by strictly implementing the ancient text Vastu Shastra. The

main principles of this ancient knowledge for residential buildings are as follows (see Table 6.4).

Table 6. 4: Principles of Vastu Shastra.

	Principle	Source
Selection of plots	A plot should be designed with roads on all sides.	(Gupta 2016; Shruti Soni et al. 2019; Yadav and Sagar 2021)
The shape of the buildings and plots	Rectangular, square, circular, and hexagonal shapes should be employed for the construction. Conversely, triangular and oval shapes should be avoided.	(Goodarzi and Fazeli 2014; Gupta 2016; Shruti Soni et al. 2019; Yadav and Sagar 2021)
Orientation	The entrance should be located in the eastern or northern direction.	(Gupta 2016; Yadav and Sagar 2021)
Direction of the rooms	The veranda should be placed in the north or east, the bedrooms in the south or southwest, the bathroom in the east, the kitchen in the southeast, and the prayer room in the northeast or east side.	(Gupta 2016; Barodia 2019; Dash and Joshi 2022)

6.5 Vernacular architecture in Kochi and Kerala

The vernacular architecture of India exhibits considerable regional variation, influenced by a number of factors, including the diverse nature (Susilo 2007), climatic conditions (Susilo 2007), (Bulhar 2010), the diversity of locally available materials and their accessibility, as well as the construction techniques employed (Bulhar 2010) and cultural backgrounds (Prakash et al. 2023). Although these factors resist any single, overarching definition (Susilo 2007), various researchers have aimed to categorise India's vernacular residential buildings in disparate ways (see table 6.5), based on the spatial organisation of the houses (Thampuran 1994; Susilo 2007) or the user profile (Susilo 2007).

Table 6.5: Classification of vernacular residential buildings in Kerala.

Classification	Types	Definition
Spatial organisation (Thampuran 1994) (Susilo 2007).	Ekasala (one-unit house)	The Ekasala house is characterised by a rectangular shape and the absence of an internal courtyard (Thampuran 1994; Swathy V Subramanian 2021).
	Dvisala (two-unit house)	The Dvisala is a combination of two units arranged around a courtyard. These units may be independent from each other or may adopt an L-shaped or plough-shaped configuration. However, their roofs are structurally independent (Thampuran 1994).
	Trisala (three-unit house)	Trisala is a combination of three independent halls, arranged in a U-shaped configuration (Thampuran 1994).
	Chatussala (four-unit house)	It is a type of housing consisting of four structurally independent blocks and a courtyard in the middle (Thampuran 1994; Gopinath 2014).
User profile (Susilo 2007)	Humble house for ordinary people	The term refers to a type of residential building common among the general population and tribal communities in Kerala (Susilo 2007).
	Ekasala for farmers and middle-class non-farmers	The term 'Ekasala', which is I-shaped in form, is also used to describe a particular type of house that is owned by farmers or those belonging to the non-farmer middle class (Susilo 2007).
	Nalukettu for landlords	The spatial organisation of a nalukettu can be described as a square with four rooms surrounding a central courtyard (Abraham 2012).
	Ettukettu or Patinjarukettu for rich landlords	They are residential dwellings belonging to property owners of considerable wealth (Susilo 2007)..
	Commoner houses for people living in the cities	They are characterised by a simplicity and ordinariness of design and are found in considerable numbers within urban and rural settlements. No particular architectural plan is evident (Susilo 2007).

The vernacular architecture of Kerala is markedly distinct from that of the rest of India, based on traditional knowledge for building (Thampuran 1994; Abraham 2012) and shaped by the region's unique climatic and geographic characteristics, including abundant water resources, dense tropical forests, and fertile soils (Kavitha et al. 2018). In Kerala, vernacular residential buildings are classified into four main types, based on their spatial organisation: (i) *Ekasala* (one-unit house); (ii) *Dvisala* (two-unit house); (iii) *Trisala* (three-unit house); and (iv) *Chatussala* (four-unit house) (Thampuran 1994; Bulhar 2010). *Ekasala* is the fundamental form from which all other forms are derived (see figure 6.5). These include the combinations of two *Ekasalas*, which is called *Dvisala*, three *Ekasalas*, which is called *Trisala*, and four *Salas*, which is called *Chatussala* (Thampuran 1994).

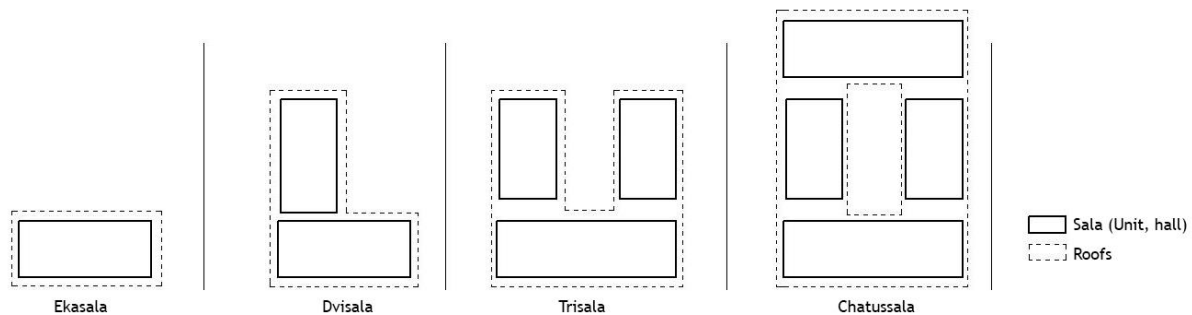


Figure 6.5: Spatial organization of vernacular residential buildings in Kerala*.

* This diagram was produced by the author from drawings by Thampuran (1994, p53).

The traditional architecture of houses in Kerala exhibits a diversity of styles, reflecting also the preferences and needs of the inhabitants. The houses that are considered to be more appealing to the general public are referred to as 'humble houses'. Those that are inhabited by farmers are known as '*Ekasala*', while '*Nalukettu*' are the houses of landowners. Finally, the houses belonging to the wealthier landowners are called '*Ettuketu*' (Susilo 2007; Bulhar 2010). *Nalukettu* was the residence of the landlords (Abraham 2012). Its structure, comprising four units arranged around a courtyard (see figure 6.6), associates it with the concept of *Chatussala* (Susilo 2007) and represents the most developed form of the typical Kerala house (Bulhar 2010).

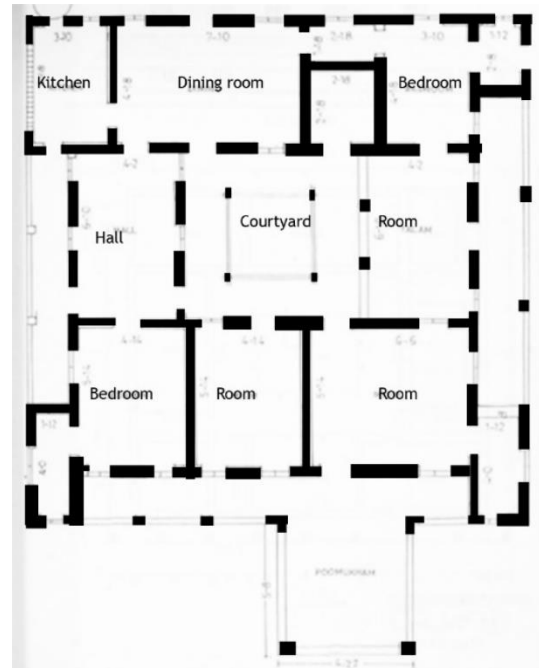


Figure 6.6: Plan of Nalukettu (Thampuran 1994).

The most prevalent architectural forms among the four identified are the *Ekasala* (single hall house) and *Chatussala* (four-hall house) in Kerala (Thampuran 1994). In particular, *Ekasala* (single-hall house) represents a significant architectural element within the broader vernacular architecture of Kerala (see figure 6.7). This particular house features a single expansive space that has been subdivided into smaller rooms in accordance with the functional requirements of the inhabitants (Susilo 2007). The single unit of the *Ekasala* type of house consists of three rooms arranged in an array. The central room is used as an agricultural warehouse (*ara*), while the two rooms on either side (*kalavara*) are allocated for different functions, such as cooking and sleeping (Widiastuti 2013).

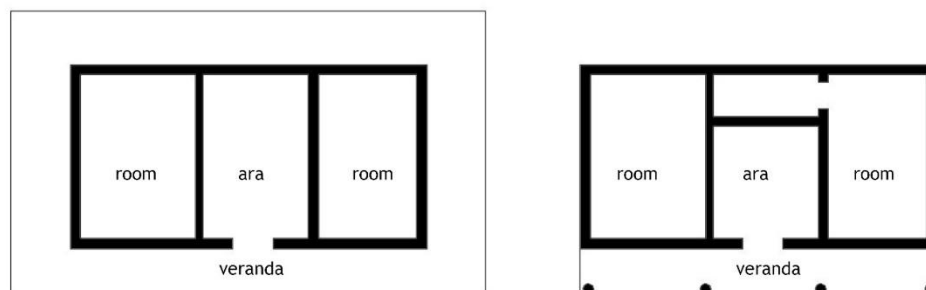


Figure 6.7: Plan of Ekasala*.

* This drawing was produced by the author from drawings by Thampuran (1994, p76).

In Kerala, traditional houses are typically constructed by the occupants of the household and local artisans, frequently with the assistance of friends and neighbours, utilising a mix of simple technology and tools (Kumar 2015). The distinctive architectural characteristics of traditional housing structures in Kerala include following features:

- Detached rectangular buildings with steeply sloping roofs (Gopinath 2014; Jacob and Gowda 2024) supported by pillars (Abraham 2012) with 40-45 degrees (Bulhar 2010).
- Courtyard external verandas surrounded by columns (Gopinath 2014; Jacob and Gowda 2024) or internal verandas surrounding courtyard (Bulhar 2010).
- Windows that provide controlled light and ventilation (Gopinath 2014).
- Raised plinths to protect the structures from the detrimental effects of humidity, moisture and insects (Bulhar 2010).
- Overhanging eaves (Bulhar 2010) to protect veranda and windows from sun light and heavy rains (Abraham 2012).
- Gable windows, situated at either end of the roof, serve the purpose of providing ventilation (Bulhar 2010) and thermal comfort (Abraham 2012) for the attic.

6.6 Landform of Kochi

Kochi is mainly made up of three primary land areas: (i) the mainland known as Ernakulam, (ii) the island of Vypin in the east, and (iii) the southern peninsula, which includes Fort Kochi and Mattancherry (see Fig 6.8). Additionally, the city's territory includes many natural and artificial islands of different sizes, separated from the mainland and the sea by water bodies. Ernakulam (mainland) is the commercial and financial hub of Kochi. Throughout history, it has been the place where trade relations were established with countries such as Portugal, Britain, and China (Joy 2013). It is also a transport hub, with a dense network of roads, airways, railways, and waterways. Vypin Island is one of the most densely populated areas of Kochi with diverse land use, including mostly residential and recreational areas. The South Peninsula is situated to the south of Vypin Island, extending parallel to Ernakulam. Fort Kochi, locally known as 'Old Kochi', is a historical region located to the northwest of this peninsula.

It is characterised by buildings from three distinct colonial periods, namely the Portuguese, Dutch and British periods. The region is a significant tourist and commercial hub.

As previously stated, the coast of Kochi is characterised by the presence of numerous large and small islands, which occupy the space between the three prominent landforms (Vypin Island, Ernakulam and Southern Peninsula). The islands situated to the north of Kochi can be categorised into three distinct groups: Vallarpadam Island, Mulakuvad Island and the Kadamakudy cluster islands. On the south side of Kochi, the islands of Willingdon, Kumbalam, Cheppanam, Perumpalam, and Uppatthezhathu can be found.

This environment of the Kochi estuary was formed as a result of a number of natural forces acting on it over a period of millions of years, namely floods (Kumar et al. 2014), monsoon rains, waves, tides and winds, resulting in sedimentation of the Kochi backwaters (Kumar and Murty 1987; Kunte 1995). A more detailed explanation of the landform of Kochi, including the formation of the selected islands used as case studies, can be found in Chapter 8.

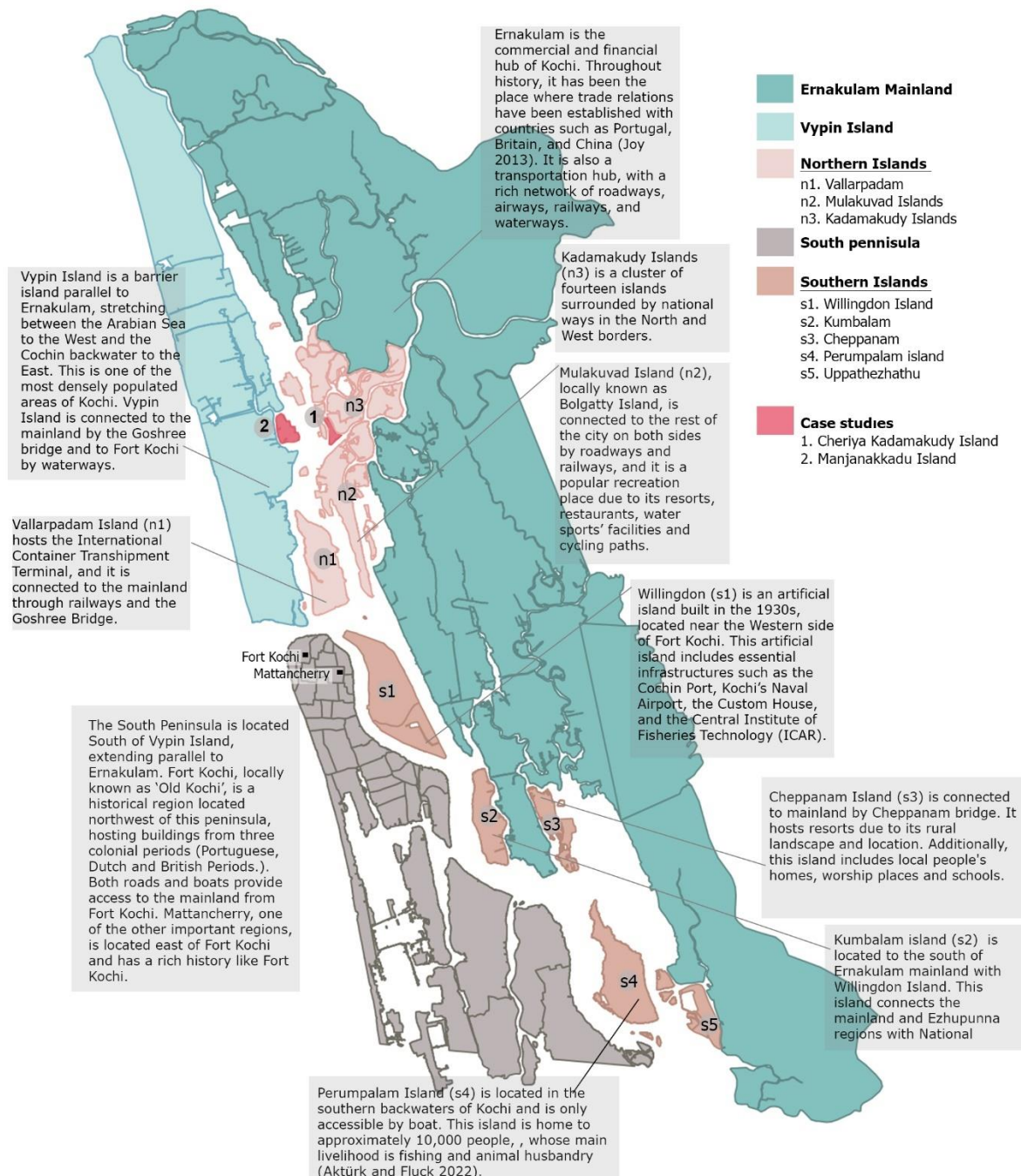


Figure 6. 8: Map of Kochi estuary highlighting coastal and midland areas.

6.7 Urbanisation along the coastline of Kochi

Kochi has undergone a substantial process of urbanisation over the years, with water playing a crucial role in this process and serving as one of the most significant enabling components. The urbanisation of Kochi is inextricably linked to the formation of its port and trade (Raphael. P and Kasthurba 2012; Zeba et al. 2018). Between the 1970s and 1980s, Kochi experienced a

period of considerable growth, during which time several issues emerged that required the attention of both planners and policymakers (Planning Commission 1988). The presence of thirty-two islands, the furthest of which was only 2-3 km from the mainland, further added to the complexity of these problems. In 1987, the Centre-State Team was established to solve the issues of Kochi and the adjoining islands with a strategic location on the country's western coast and to foster the integrated development of the city. The team's tasks included: (i) identifying the need for land reclamation for waterways; and (ii) building road links from the mainland to the islands (Planning Commission 1988). In 1987, the initial action was taken to strengthen the relationship of the islands with the mainland, considering the region's environmental and ecological background.

The rapid urbanisation process of Kochi was triggered by economic development and population growth, notably in the period between 1990 and 2000. The urban population has increased from 1,247,000 in 1991 to 1,430,000 in 2001 (See Figure 6.9). During this period, Kochi experienced outward urban expansion beyond the city limits (Jayalakshmy and Mereena 2016). Between 1968 and 2010, the built-up area increased from 36.51 km² to 48.07 km², largely as a result of the conversion of both open spaces and agricultural lands, including mixed crop zones and rice fields, to mainly residential areas (Nair et al. 2016).

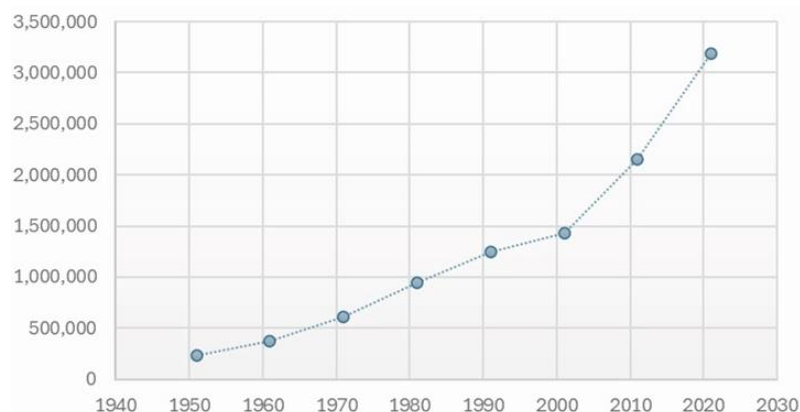


Figure 6. 9: Kochi Urban Area Population History (Source: populationstat).

Kochi has experienced a notable expansion of its urban area, with the implementation of a multitude of development projects, the construction of essential infrastructure, and the facilitation of access to a range of fundamental services, including healthcare and education (George 2016). The 2011 demographic census revealed that 602,046 individuals were residing within the boundaries of the Kochi Municipal Corporation that year. The population of Kochi

has increased by 5.6% compared to the previous decade, representing 40% of the urban population in the district (Local Self of Government Department 2005).

This is due to the fact that a considerable number of both minor and substantial investments have been made in Kochi in recent times. For instance, the Kochi Port on Willingdon Island, where export and import transactions are carried out, and the International Container Transshipment Terminal in Vallarpadam, which functions as a transfer terminal (George 2016), have had a significant impact on urban growth. The process, which started in the 1970s and continues until today, has led to the urban development in Kochi in an eastward direction, towards its satellite towns.

“Goshree Bridge” built in two stages between 2002-2005, “National Highway NH966A” (formerly NH-47), whose construction started in 2009, “Vembanad Railway Bridge” built between 2007 and 2010 are the main recent projects affecting the urbanisation rate and urban growth of Kochi along the coastline (see Figure 6.10). These projects have caused a significant change in the urban transportation system, which historically has been heavily dependent on boats.

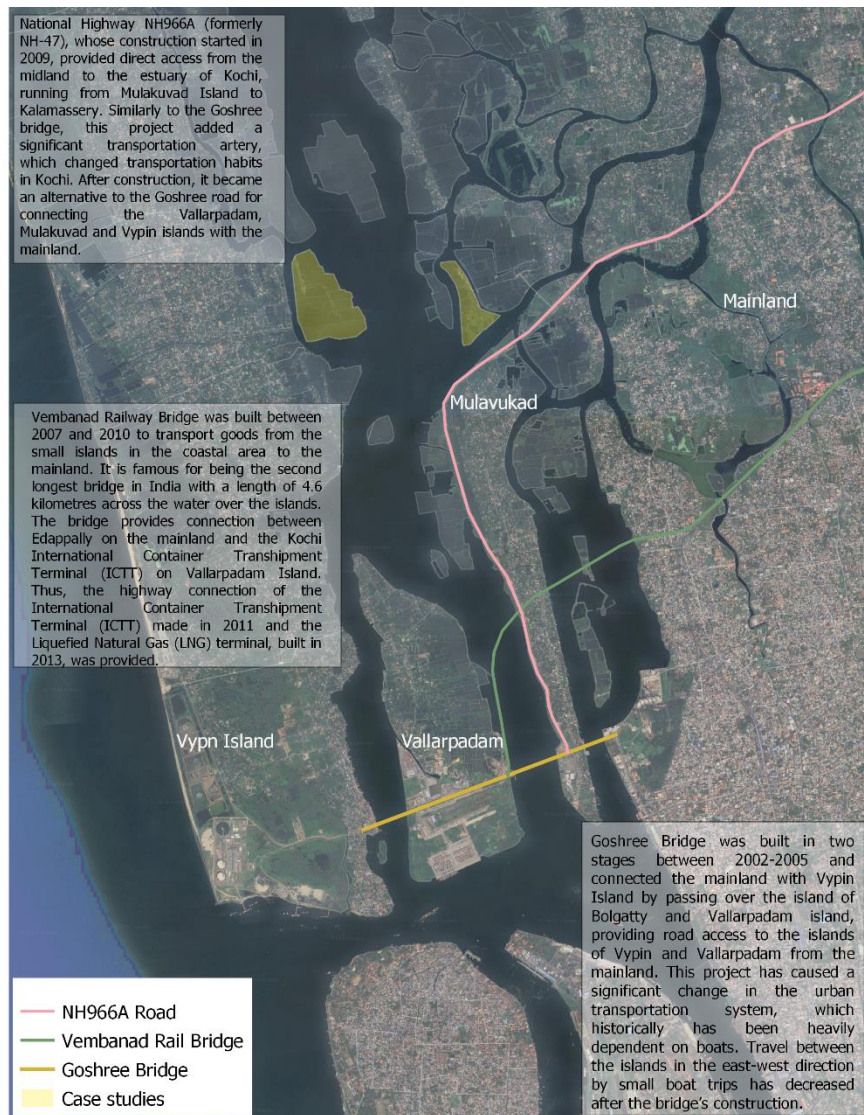


Figure 6. 10: Recent projects affecting the urban growth of Kochi along the coastline.

Between 2000 and 2010, the government invested in the transportation infrastructure of the city, giving importance to vehicle and railway transportation (KMRL 2015). Despite the construction of these new projects, the local municipality recognised that the city's rapid urbanization process would add additional pressure on Kochi's infrastructure, causing problems. According to the Kochi City Area Development Plan (2031), the current road infrastructure in Kochi is inadequate to meet the future transportation demand and the environmental problems this will create were highlighted. Therefore, to encourage the use of public transport, a railway-based project called 'Kochi Metro', which stretches for 25.61 km from Aluva to Petta, was developed (KMRL 2015). The construction of the first phase route of the project, consisting of 22 train stations, started at the beginning of 2013 (Sankar et al. 2014) and the line officially opened for use by passengers in 2017. In the same year,

construction for the second phase of the Kochi metro project began, comprising a 11.2 km long route, connecting JLN Stadium and Info Park (Rahim, Thomas, and Baburajan 2022). The route from Aluva to Cochin International Airport, i.e., the third phase of the metro as an airport extension, is currently in the final planning stage and its construction is expected to begin in 2024. Some of the stations built in the first phase provide partial access to the coastal areas and their immediate surroundings, but the main benefit of the project is that it acts as a transport interchange, connecting the city's railway, highway and water networks.

Kochi's urbanisation process and infrastructure development have changed the transportation habits between the Ernakulam mainland, Vypin barrier island, South Peninsula, and the islands of different sizes in the city's waterbodies. Improvements to the road and rail transport arteries have overshadowed Kochi's most established mode of transportation, namely, maritime transportation. Kochi's unique transportation network consisting of backwaters, lakes, and canals has played an essential role in the region's urbanisation from past to present by providing easy access to certain areas, supporting trade activities or facilitating connections to tourist-recreational destinations. In Kochi, the canal system is essential in enabling commercial activities, especially in low-lying coastal areas (LSGD 2010). However, according to the Development Plan (2031), demand for water transport in Kochi is decreasing due to the construction of bridges connecting the islands. Additionally, passenger services are limited except for a few main waterway routes, while private boats serve mainly tourists (LSGD 2010). Therefore, to revive the city's sea transportation, the government has taken initiatives in harmony with the city's form consisting of water bodies.

Kochi Metro Rail Limited (KMRL), with the directives of the Ministry of Urban Development, designed a backwater transportation network system called the 'Kochi Water Metro Project', working in integration with other modes of transportation in Kochi. Its implementation plan originally involved the completion of the 16 designated routes in two phases between 2017-2020 (KMRL 2017). On its completion, this network system should have connected ten islands with 38 terminals along a 78.2 km long route (KMRL 2019). While the first phase was completed with passenger service starting in April 2023, the stations of the second phase are expected to start operation by the end of 2023.

6.8 Coastal Regulation Zone Notification

The Coastal Regulation Zone (CRZ) was introduced by the Indian government in 1991 mainly to protect the sensitive environment and habitats around coastal areas (MoEF 2011). Following the Tsunami in 2004, the CRZ Act was revised to protect human habitat (Krishnamurthy et al. 2014; Sundar 2014). CRZ was further revised in 2011 to ensure livelihood for local (fishing) communities, protect the coastal environment and regulate urban development activities along these coastal areas (NCSCM 2011), to prevent the expansion of industry within the boundaries specified as Coastal Regulation Zone (CRZ) (MoEF 2011).

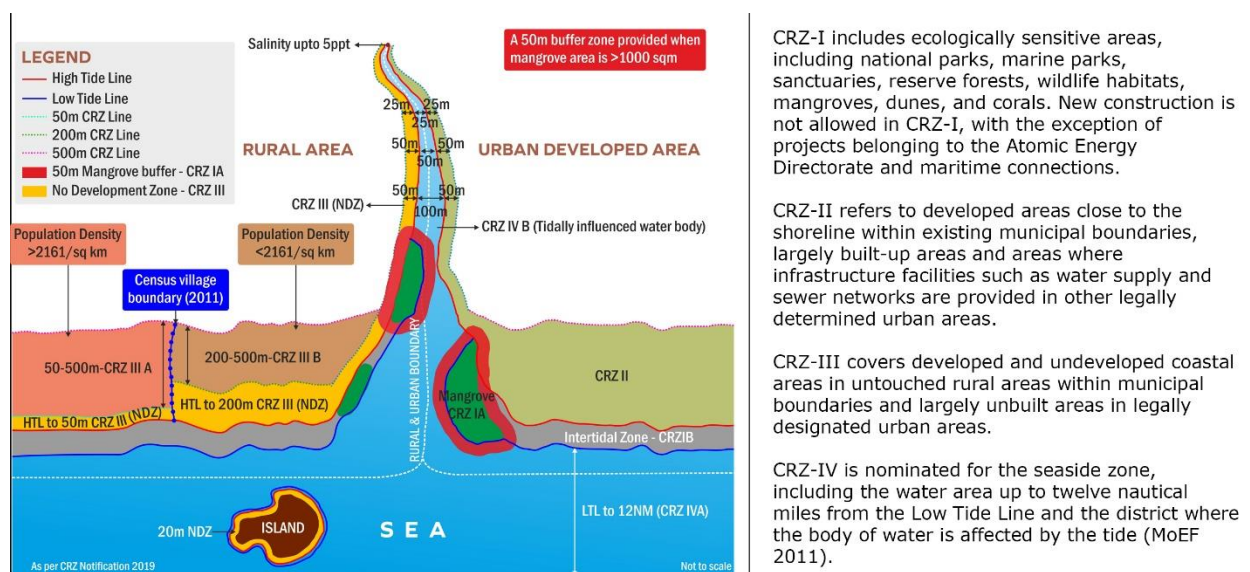


Figure 6. 11: Diagram showing classification of CRZ based on Coastal Zone Management Plan (NCSCM 2011).

The Coastal Regulation Zone is defined as coastal land up to 500 m from the high tide line and 100 m area along the backwaters, estuaries, stream banks, lagoons and rivers where there are tidal fluctuations. It has been classified into four zones (CRZ-I, CRZ-II, CRZ-III, CRZ-IV) to classify ecologically sensitive, built-up areas, rural and urban areas, and to determine construction limits in relevant zones as shown in Figure 6.11 (MoEF 2011).

These general development rules and constraints that have been determined for all the coasts of India have been integrated and tweaked for three specific areas: Greater Mumbai, Goa and Kerala. This is due to the specific morphological features that distinguish them from the others. A separate section has been included for Kerala, which is characterised by the presence of numerous small and large islands. This section specifies that inland backwater islands and islands along the mainland coast of Kerala require special consideration. The

special section, whose primary purpose is to protect the coastal environment was designated based on the 50-meter rule, and includes the following guidance (MoEF 2011):

- All islands in the backwaters of Kerala must be covered by CRZ notification.
- Islands in the backwater should have a stripe width of 50 metres from the Tide Line towards the landward, considered as CRZ area.
- Existing residential units of local communities can be repaired or rebuilt within 50 metres from the HTL of the Backwater islands. However, no new construction will be allowed within 50 metres of the HTL towards the land side.
- With prior permission from Gram panchayat, local communities can be allowed to build housing units 50 metres beyond the HTL border towards the land side of the Backwater islands.
- Fishing facilities may be located within 50 metres of the backwater islands from the HTL to the landward side.

However, in the 2019 update to the CRZ notification, the CRZ area for the islands was reduced from 50 metres to 20 metres. This was done after an evaluation of the unique coastal systems of the islands located along the mainland coast of India (MoEF 2019). The introduction of this 20-meter rule was a turning point for development activities on the islands in Kochi, affecting the social lives and physical environment of the islanders who were conducting a rural life.

6.9 Land Reform

Land reform in the context of India refers to the redistribution of large plots of land to landless farmers as a result of various government initiatives to improve the livelihoods of the farmers by enabling landless farmers or agrarian workers to have rights on the land (Bardhan et al. 2014; Deininger, Jin, and Nagarajan 2009; Savitha.M and Dr.Patel Nagraj Goud 2017). Considering the undeniable importance of agriculture in its economy, land reforms were one of the key policies, especially since independence to bring about social mobility and social justice to generations of landless farmers who had previously been exploited by landlords (Savitha.M and Dr.Patel Nagraj Goud 2017).

The foundations of the land reform were laid between the 1950s and 1980s, during which time the semi-feudal agricultural system inherited from the British Raj period between 1858

and 1947 was reformed (Bandyopadhyay 1993). Even though the land system in India was called semi-feudal, the British found it difficult to ascertain ownership of specific land due to the prevalence of multiple claims on the land by various individuals. Consequently, they endeavoured to regulate property rights on the land and commenced the sale of plots by auction (Bandyopadhyay, 1993). The sale of lands undertaken by the British marked a significant turning point for land relations in India.

It prevented poor peasants who depended on the land for their livelihood from buying land, and at the same time, allowed a new class to emerge that earned their living from the rents they collected from the farmers (Bandyopadhyay, 1993). The fact that a large majority of the agrarian society has lived in poverty because of the unfair land system in a community like India, whose economy is based mainly on agriculture, laid the ground for subsequent land reforms. After India's independence in 1947, the elected left party in Kerala put land reform on top of its agenda (Radhakrishnan 1981).

Kerala's Land Reform Act (GoK 1963) was first drafted in 1957 following the election of the Communist Party of India (CPI) government (D'Costa and Chakraborty 2017), which was led by 'Elamkulam Manakkal Sankaran Namboodiripad (popularly known as EMS). In 1957, the CPI took further steps until the 1970s to implement land reform with the objective of ending the semi-feudal farming system that deprived landless farmers of livelihood. This reform in Kerala provided required security to long-term tenants (Ramakumar 2006). Consequently, the implementation of land reform measures has resulted in the majority of rural households in Kerala owning a farm (Manjula.K. 2002).

6.10 Conclusion

This chapter aimed to provide information about the history, climate, architecture, urbanization process and landform of the city where the case studies are located. This was done in order to provide a ground to reveal the physical features of the selected islands as case studies and the profile of the participants more effectively in the subsequent chapters. Kochi is a historical port city and one of the largest commercial centres in the world, located in the southwestern part of India. Its strategic location throughout history has resulted in the city

becoming an important port, trade and transportation centre. Kochi is situated within a tropical monsoon climate zone. Due to its proximity to the equator, the city experiences high humidity levels and heavy rainfall during the monsoon season. The city's landform comprises a barrier island, a mainland area and a peninsula, as well as the water bodies that separate them from each other and the islands located on it.

CHAPTER 7

CHAPTER 7: INTRODUCTION TO CASE STUDIES AND FIELDWORK DATA

This chapter introduces two case studies through the data collected from archival research, desk-based research and fieldwork and provides a brief description of islanders' everyday life practices and the physical characteristics of the environment. This chapter aims to distinguish between the description of data and the more advanced analysis discussed in Chapters 8, 9, and 10.

7.1 Introduction to case studies

Cheriya Kadamakudy is one of the islands in Kadamakudy Cluster of Islands located between Mulakuvad Island, and Vypin, and connected to the mainland via a narrow road over Pizhala Island. East Manjanakkad Island is located east of Vypin Island but does not have a road connection to Vypin (see Figure 7.1). The only way of access to this island is a waterway. East Manjanakkad is one of sixteen wards in Njarakkal village which has 16 wards (LSGD 2022).



Figure 7. 1: Location of case studies.

Cheriya Kadamakudy is a part of Kadamakudy town, which has a population of 16,295 people (Census India, 2011), of which 37% are working and has a literacy rate of 97.17 % which is higher than the state average of 94.00 % (Census, 2011). Njarakkal village has a population of 23,760, and the literacy rate in the town of which East Manjanakkad island is a part is 97.46% (Census, 2011). According to the 1981 census, the population of Cheriya Kadamakudy island was 282, while East Manjanakkad island had a population of 140. There has been no data on a population census conducted specifically for the islands since 1981. During the fieldwork conducted in 2022, the research identified 62 houses on Cheriya Kadamakudy Island and 42 houses on East Manjanakkad Island (Table 7.1).

Table 7. 1: Population trends and house numbers of Cheriya Kadamakudy (CKI) and East Manjanakkad (EMI) Islands.

Year		Cheriya Kadamakudy	Kadamakudy Village	East Manjanakkad	Njarakkal Village	Source
1891	No. of houses	NA	816	NA	1,048	(TRA 1907b, 1907a)
	Population	NA	4,263	NA	5,416	
1901	No. of houses	NA	889	NA	1,142	
	Population	NA	4,377	NA	5,490	
1961	No. of houses	32	1,476	14	2,651	(GoK 1965)
	Population	194	9,227	98	15,777	
1971	No. of houses	34	1,675	15	2,921	(GoK 1974)
	Population	240	11,831	98	1,221	
1981	No. of houses	42	2,182	19	3,622	(GoK 1981)
	Population	282	13,696	140	21,672	
2011	No. of houses	NA	4,017	NA	5,848	(GoK 2013)
	Population	NA	16,295	NA	23,760	
2022	No. of houses	66	NA	44	NA	(Fieldwork, 2022)
	Population	NA	NA	NA	NA	

7.2 History of inhabitation on the island

Islanders from Cheriya Kadamakudy and East Manjanakkad came to the island for the first time to accompany landlords. Prior to the implementation of the Land Reform in 1970, a system existed on the islands whereby landlords owned the land and agricultural workers cultivated it. Subsequently, those employed in agriculture on the island were able to become landowners (please see section 6.9 for overview of the land reform process in Kerala). When asked about the stories of their first arrival on the island, Manish (Farmer, EMI) explained the island's earliest history through the story of a child worker who came from Thrissur, north of Kochi, as follows:

“It can be mentioned that almost 250 years ago, the landlords were living on the other shore. Population was less on those days. So, when someone gets married there, a boy would be brought along with the bride as child labour. Likewise, a boy of around eight years was brought from Thrissur. He was raised there. He got him married from here and settled here. We are all his descendants.”

Cheriya Kadamakudy Islanders have a similar story to East Manjanakkad Islanders about why the first inhabitants came to the island. Yashita (housewife, CKI) stated ‘*Our forefathers accompanied the landlord here to service, and then he (landlord) got him here, and that is how our family came here. He was doing the cooking.*’ The story tells that their ancestors first came to accompany the landlord and later settled on the island and started farming.

In both islands, the Land Reform Act resulted in the majority of islanders becoming landowners, previously tenants who lived and farmed on the island, paying rent to landlords. The land reform guaranteed each farmer owning at least 10 cents (equal to 404.600 sq. m) of land. The planning and implementation of this reform by the government shaped the land partitioning and ownership pattern that one can see in the islands today. The current physical landscape and spatial layout of the islands reflect the process of the Land Reform Act. Nena (farmer, CKI) recalling the historic settlement pattern of the island before the land reform mentioned:

“Ten cents of land were distributed as per the Land Reformation Act. Now, it is divided among the children, and they settle there. It's better because otherwise, they needed to buy land. That's the reason for the increased number of houses here”.

7.3 Typical family structure and everyday life practices

The islanders living in Cheriya Kadamakudy and East Manjanakkad can be characterized by a community of “joint families” living around the waterbodies in unity and solidarity with each other. Both islands began to be populated when a landlord brought there a group of agricultural workers. Later, these workers (islanders) established and expanded their families on the islands.

Thundiparambil and Marangattuthara in East Manjanakkad Island are among the oldest and most dominant families (in population) on the islands. 42 houses on the Manjanakkad island belong to just 8 families, with about half of these belonging to these two prominent families. In Cheriya Kadamakudy, Pashniparambil, Edakatuparambil and Madathiprambil are the most dominant families in terms of the number of houses and people. Fourteen families in total inhabit this island, and – similarly to East Manjanakkad Island - the three prominent families own approximately half of the houses, which in this case are 62. The house names and numbers that have been identified through archival research and fieldwork are presented in Table 7.2.

Presently, both islands host communities consisting of relatives from several different lineages. Aaron (farmer, CKI) summarised the kinship relations on the island as follows: *“Almost all families here are our relatives... People from this side to 5-8 houses there are our close relations like they are my father’s siblings and their children”*. Similarly, Annapurna (farmer, EMI) declared that *“Islanders are all in close bond like a single family.... Most of the people on the island are relatives and are like a family.”*

In Cheriya Kadamakudy Island, the everyday lives of the islanders, who earn their living by fishing, are spent commuting between their homes, agricultural lands and markets.

According to the demands of fish prawn or paddy cultivation, islanders visit the agricultural land at certain intervals. Andrew (farmer, CKI) described his typical day in Cheriya Kadamakudy island as follows: *“When I wake up in the morning, I usually do anything regarding vegetable farming at home. If it is the season of fish farming, I would go there and do the chores like accumulation and release of the water. If it is the cultivation season, there would not be much work after sowing. It is 6 months each for the cultivation and fish farming.”*

Table 7. 2: House name and numbers of Cheriya Kadamakudy and East Manjanakkad Islands.

No	Cheriya Kadamakudy Island		East Manjanakkad Island	
	House name*	Number of houses	House name*	Number of houses
1	Pashniparambil	32	Marangattuthara	15
2	Edakatuparambil	8	Thundiparambil	12
3	Madathiparambil	7	Aduvakparambil	1
4	Avitam palli	2	Choolakkal	1
5	Karikashery	2	Kaithavalapil	4
6	Thundathil	2	Madaplathurithil	4
7	Era thara	1	Muringanathu	1
8	Kalacha muri	1	Padathumthara	1
9	Mapleshery	1	Undefined	3
10	Padanakkal	1	Total	42
11	Panakkarath	1		
12	Puliyaparambil	1		
13	Valiyaparambil	1		
14	Vadi kattu	1		
	Undefined	1		
	Total	62		

*It is traditional for the family name and the house name to be identical on both islands. It is common practice for each family to give their house a name derived from their own surname.

Furthermore, they used to collect the prawns from the net in the early morning in order to sell them in the market. Joushua (farmer, CKI) explained prawn filtration, saying: *“Water rises more at night than day. At night we need to place a light in water to attract the prawns . . . Nets are laid usually at night ...approximately at 2-3 am else the caught*

prawns rot before reaching the market. . . In the market, it has to be fresh. In the morning, if I collect it will be fresh.”

In East Manjanakkad Island, Shobita (farmer, EMI) explained her everyday life, saying: *“I go fishing every day for searching for the fish. We get into the water, stay there half-immersed and search for fish, prawns or crabs with our hands. So when anything comes near our hands, we just grab it.”* Minar (farmer, EMI) states that he spends his everyday life in the agricultural field, as evidenced by the following words. *“I have a small fish farm. It's called kettu in Malayalam . . . The shutter has to be raised and closed to let in and out the water alternatively at regular intervals. Then I have to catch fish and prawns from there.”* Minar, differently from Shobita, refers to an agricultural field that employs a shutter mechanism for the installation rather than manual labour.

7.4 Agricultural practices of islanders

Historically the livelihood, which also shaped their everyday life practices and was affected by natural factors has defined the identity of the islanders in Kochi. Considering the three seasons that differ sharply during the year, nature and climate are an integral part of agricultural practices in Kochi. The islanders like the rest of Kerala plan their agricultural activities based on the Malayalam calendar which is a lunar calendar unique to the region. The dates of all functions that take place in the temple, festivals and agricultural activities in Kerala are based on the Malayalam calendar (see Table 7.3). Two important agrarian festivals, the *Vishu* and *Onam* festivals, occupy a special place in this calendar. The Vishu festival marks the first day of the Malayalam calendar, which roughly falls in mid-April. This festival also symbolizes the beginning of agricultural activities in Kerala (Pramod, Sivadasan, and Anilkumar 2003; Resmi et al. 2022), and is often accompanied by inaugural celebrations for the forthcoming cultivation period.

Based on the dates in the Malayalam calendar, the islanders complete all the rice-related cultivation activities between the Vishu festival and the Onam festival, including fortifying the bunds, drying the fields, planting and harvesting the seeds. However, the rice cultivation period has been affected by changing environmental, economic and

social conditions over time, influencing the lives of the islanders and their physical environment. While describing the periods of agricultural activities, Joshua (farmer, CKI) referred to the months in the Malayalam Calendar as follows: *“We can calculate times according to the Malayalam Calendar. Harvesting by November- December. In a 5-month period. Actually, 4 months is its yielding period. After November ... December ... January(he calculates the time) by March it would be harvested. . . . The actual date (for preparation) is meenam 30 (month of the Malayalam calendar). It is according to the conventional system. So I shall say that after checking the calendar.”* Islanders have experienced three distinct agricultural periods throughout history: (1) Monocropping culture, (2) Rotational farming (3) Abandonment of Pokkali cultivation.

Table 7. 3: Malayalam calendar and islanders’ agricultural events.

Malayalam Calendar Month	Corresponding Gregorian Calendar Months	Agricultural events in the month	Features of the season
Medam	April - May	Vishu festival is celebrated on the first day of ‘Medam’.	Summer season
Edavam (Idavam)	May - June	-	Summer season- Beginning of southwest monsoon
Midhunam	June - July		Monsoon season
Karkidakam (Karkkidakam)	July - August		Monsoon season (Peak of monsoon)
Chingam	August - September	Onam festival is harvest festival celebrated in the month of Chingam.	Monsoon season
Kanni	September - October	-	Monsoon season
Thulam (Thulaam)	October - November		Monsoon season
Vrischikam	November- December		Winter season
Dhanu	December - January	-	Winter season
Makaram	January - February		Winter season
Kumbham	February - March		Winter season - Summer season
Meenam	March- April		Summer season

7.4.1 Monocropping culture: Ridge and furrow farming

Pokkali cultivation and fishing have been a significant source of income for the islanders. They have cultivated this paddy in swamps situated between sandy ridges. Coconut was among the main crops produced in the villages where the case study islands were located, (TRA 1907a, 1907b). Furthermore, they persisted in their fishing operations in the vicinity of the islands. When asked about how rice was cultivated in the past, Manish (Farmer, EMI) said that, in the past, Pokkali was cultivated also in the low-lying lands surrounding the island during the low-tide periods:

“These were furrow without bunds. When the water level decreased, the lands were suitable for cultivation. Only these sides seen were lands. All others were cultivation fields and furrows...it has been only 100-120 years since these bunds were formed by people by gathering the silt from the water, lying boundaries and using them for cultivation and farming. Before that, these were all furrows with just a marshy platform”.

In this description, the farmer refers to the oldest agricultural practice in the islands, which is a farming system arranged in strips called ‘ridge and furrow’. The Survey and Settlement Register (SSR) documents dated 1907 (TRA 1907a; TRA 1907b) indicate that the inhabitants of Cheriya Kadamakudy Island (CKI) and East Manjanakkad Island (EMI) cultivated paddy in swamps situated between sandy ridges.

7.4.2 Rotational farming: Pokkali and prawn system

The rotational farming system, known as the integrated farming system, is a comprehensive farm practice aimed at improving the livelihoods of small farmers (Kashyap et al. 2022). This practice is based on agriculture-aquaculture integrated farming systems in the same season or successive seasons (Ranjith, Karunakaran, and Sekhar 2018a). This rotational farming system has a long history in India. Coastal communities here throughout history have developed their unique tactics for livelihoods to take advantage of the ecosystem in the geography they live in. Rotational farming systems are agricultural

practices developed by local communities to ensure food security and livelihood stability. The crop rotation system observed in both islands consisted of a sequential cultivation of rice and prawns in the same field. The Pokkali farming system has become profitable by including prawn cultivation in the next season, as rice cultivation alone is not profitable (please see Table 7.4 for the economic analysis made for the rotational farming system in areas close to the island).

Table 7. 4: The economic value of integrated Pokkali-prawn farming.

	Pokkali Cultivation	Pokkali Cultivation and Prawn filtration	Place	Source
Net return per hectare	Rs. 62.864 (£ 597)	Rs. 343.879 (£3,266)	North Paravur, Kochi and Kanayannur Taluks	(Ranjith et al. 2019)
Net income per year	Rs. 63.000 (£ 598)	Rs 521. 000 (£4.949)	Ernakulam district	(Ranjith, Karunakaran, and Sekhar 2018a)

Historically, wetlands of the islands have been traditionally the home of islanders where they lived and did agriculture and islanders from Cheriya Kadamakudy Island (CKI) and East Manjanakkad Island (EMI) mainly have depended on paddy and fish farming in wetlands surrounding the islands. Currently, the majority of islanders primarily focus on fishing (see Figure 7.2) as their main source of livelihood even though they may have other sources of income.



Figure 7.2: Islanders fishing in Cheriya Kadamakudy Island.

7.4.3 Abandonment of Pokkali cultivation

The agricultural system of these islands, which was based only on monocropping culture, changed to turned into a rotational farming system but a current labour shortage is making the farming practices financially unviable. Government of Kerala (1963) identified labour shortage, physically challenging work required for Pokkali cultivation, and the lack of mechanisation are the biggest threats to Pokkali agriculture. As a result, the total area where Pokkali is harvested has decreased (see Figure 7.3) from 25,000 hectares in the 1980s to 8,500 hectares 5,500 hectares today, of which 5,500 hectares are actively used for paddy cultivation (Adithya V.K. 2020; Jacob and Subramannian 2022; Mohan and Prasanna 2019; Sreelatha and Shylaraj 2017). About 4,000 hectares of these rice fields are in the Ernakulam district, where the islands are located (Anjana 2020).

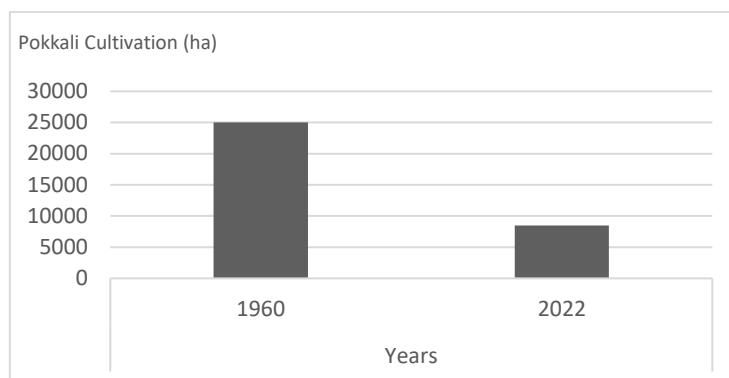


Figure 7.3: Decrease in Pokkali cultivation area (hectares) in Kerala between 1960 and 2022 (Source: Adithya V.K. 2020; Jacob and Subramannian 2022; Mohan and Prasanna 2019; Sreelatha and Shylaraj 2017).

Approximately 15-200 days of labour are required per hectare for Pokkali cultivation. The insufficiency of the daily wage given to workers is the main reason for the inability to find the labour force required for Pokkali cultivation. This has become a significant problem for the continuation of Pokkali cultivation. (Kaleekal 2006). Below (see Table 7.5) is a description of the labour involved in Pokkali paddy cultivation regarding the studies conducted in two regions located close to the islands.

Table 7. 5: Calculation of man-days/ha required for paddy cultivation.

	Place / Source			
	Vypeen (P.A and Joseph 2000)		Khuzupilly (Kaleekal 2006)	
Steps of the cultivation process	Manday*			
	Male	Female	Male	Female
Building bund	10	-	5	-
Building mound	35	5	20	5
Soaking the seeds	5	3	5	3
Ploughing	2	25	2	20
Clearing weeds	2	25	2	20
Transplanting seedlings over the paddy field	2	25	2	20
Preparing threshing ground and shed	4	2	4	2
Harvesting crops	11	20	5	20
Handling post-harvest work (sorting, cleaning, storing etc)	13	18	9	13
Total	84	123	54	103
Total mandays	207/ha		157/ha	

* A manday is the amount of work done by one person in a full day's work.

The fish farming practice and the Pokkali farming practice in the islands are predominantly based on the division of labour among the families. For fish farming, each family member had a duty, such as growing fish, guddling or hauling with a net, and taking the products to the fish market for sale. For Pokkali cultivation, male islanders were mainly responsible for labour-intensive tasks such as bund construction, paddy field preparation, and some cultivation steps. Female islanders used to participate in the division of labour by working in planting and harvesting. Additionally, the Pokkali cultivation required workers from outside the family. Meena (Farmer, CKI) during the interview explained the impact of external labour shortages that are significantly reducing Pokkali farming on the islands:

“In the past, about 60 labourers from outside used to come to cut and collect the paddy and collect approx. 200 kg rice during that time. Now, we don't get labourers in order to plough fields because there is nobody. Younger people used to plough fields. Now we cannot get anybody.”

The labour-intensiveness of the Pokkali cultivation process made farmers reluctant to continue with Pokkali farming and are increasingly shifting to prawn farming alone instead, as the latter yields higher returns all year round (Anjana 2020). When asked, Aaron (Farmer, CKI) stated that Pokkali is no longer cultivated on the island due to the following reasons.

“In the backside of our house, grassy and scrubby, were actual paddy fields. As it was abandoned without farming, it gradually turned to land-like. Mangroves and random weeds grow up there now. It's all because cultivation was stopped. Otherwise, these fields when prepared for cultivation would have been clean. Who does paddy cultivation now? Literally nobody. That's generally because of shortage of labour. Machines and other equipment are not feasible here. Manual labour itself is required.”

The livelihood of the islanders on both islands is currently mostly dependent on fish and prawn farming among the other agricultural activities since the cultivation of Pokkali

cultivation has been largely abandoned as in Kerala. Other agricultural activities, although not very intensive, are the rearing of buffalo and planting of different rice seeds, which have increased due to the presence of government incentives (Kerala State Development Corporation).

7.5 Islanders' perceived space

Islanders living in Cheriya Kadamakudy and East Manjanakkad have played an active role in determining the spatial arrangement and shaping of the islands' landforms since they first set foot on them as a result of their everyday life practices. The sections below further expand on the production of spaces (lived space) by describing: (i) the built environment (perceived space) on the island in this section; and (ii) different influences such as experts, local and central governments have in the production of spaces on these islands (conceived space) in section 7.5. Using the 'perceived space' in the framework developed through the literature review in Chapter 4, this section describes physical places where islanders' everyday life activities take place and the routes connecting these places.

7.5.1 Residential area

East Manjanakkad Island's residential area is divided into four separate parcels. The island covers 38.2 hectares of residential area. The main residential parcel, which includes 37 of the 42 houses and is the largest land area, is located nearest to the mainland on the eastern side of the island (see Table 7.6). Out of the 42 houses, three of which are abandoned and two of which are under construction. It has two temples in the main residential parcel and a traditional sacred space known as *sarpakavu* (Fig 7.4-6) in one of the residential parcels located on the eastern edge of the island. This *sarpakavu* is visited by the islanders every Sunday for religious purposes and during religious festivals like the *Onam* festival.

Table 7. 6: Building use in East Manjanakkad Island (R: Residential Land).

Type	Quantity				Total
	R1	R2	R3	R4	
Dwelling	38	3	-	1	42
Temple	2	-	-	-	2
Sarpakavu	-	-	1	-	1
Total	40	3	1	1	45



Figure 7. 4: Sarpakavu (upper-left corner), second temple (upper-right corner) and main temple (below) in EMI.

Cheriya Kadamakudy Island covers the 61.84-hectare residential area, located on the eastern edge of the island, parallel to the mainland, including 62 detached houses within (see Table 7.7), four of which are under construction. The island's residential area (see Figure 7.5-6) also has a temple and a church (St. Sebastian's Church was built about 35 years ago). Islanders mostly access the island via the steel bridge built by the Navy in 2019 after the flood disaster in Kerala in 2018.

Table 7. 7: Building use in Cheriya Kadamakudy Island.

Type	Quantity
Dwelling	62
Temple	1
Church	1
Total	64



Figure 7. 5: St. Sebastian's Church (upper-left corner), temple (upper-right) and view of CKI's residential area from the river (below).

Cheriya Kadamakudy island has 62 houses in a single residential area of 61.4 hectares, while East Manjanakkad island has 42 houses spread across four residential lands, predominantly occupying space in the first residential land. Cheriya Kadamakudy is characterized by a spatial arrangement where different land uses co-exist in a single land. On the contrary, East Manjanakkad island exhibits a fragmented landform, thus affecting partly the residential spatial distribution but predominantly that of places of worship.

Although the temples are located on the first residential land, the sacred grove is on the third residential land within nature (see Table 7.8).

Table 7. 8: Islands' spatial characteristics in the residential area.

East Manjanakkad				Cheriya Kadamakudy		
Residential area (RLA) (m ²)		Number of dwell-ings	Number of worship places	Residential area (RLA) (m ²)	Number of dwell-ings	Number of worship places
RLA1	27,263	38	2	61,422	62	2
RLA2	2,902	3	-			
RLA3	3,325	-	1			
RLA4	4,780	1	-			
Total (m²)	38,270	42	3	61,422	62	2

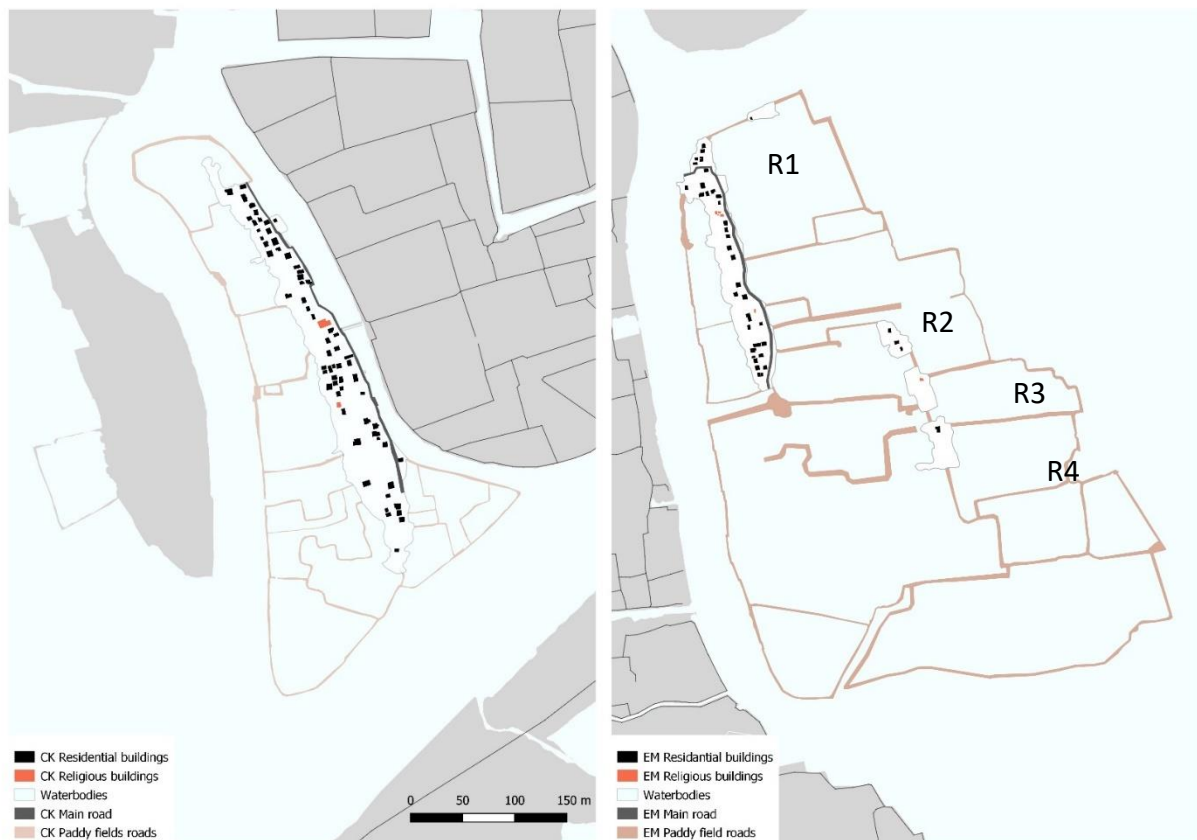


Figure 7. 6: Building use map of Cheriya Kadamakudy and East Manjanakkad Islands.

7.5.1.1 Urban spaces

The most notable gathering points and social environments on East Manjanakkad island are the two temples and a sacred grove situated in the southern region. In addition, there is an area where children play and small and large animals graze, although the boundaries are not clearly defined. The islanders convene in these areas on specific days by agreement for specific purposes (see figure 7.7).



Figure 7. 7: Urban spaces of East Manjanakkad Island.

The coexistence of Hindu and Christian populations on Cheriya Kadamakudy Island has led to the establishment of two primary meeting points: a church and a temple, which

are both accessible on a weekly basis and on days of special significance during festivals and holidays. Additionally, the Navy constructed a children's park in 2018, situated in the central region of the island in close proximity to the church. Additionally, an area has been designated for women to engage in laundry activities at the southern end of the area (see figure 7.8).



Figure 7.8: Urban space of Cheriya Kadamakudy Island.

In addition to the previously mentioned locations, there are specific social spaces on both islands that facilitate unplanned encounters and interactions. These include roads, gardens, and verandas. The islands are characterised by a diversity of road typology, comprising three principal categories (see figure 7.9-10):

- The first is the main road that extends along the entire length of the islands, providing access to the front plots.
- The second is the alley, which provides access to the houses situated behind the front plots.
- The third is the paddy field road, known as the bund, which provides access to the paddy fields. The three types of road intersect at numerous points on both islands.

	CHERIYA KADAMAKUDY ISLAND	EAST MANJANAKKAD ISLAND
Main road	 A paved main road on Cheriya Kadamakudy Island, bordered by a body of water on the left and a concrete wall with a mural on the right.	 A dirt main road on East Manjanakkad Island, bordered by a body of water on the left and a blue and white striped tarp on the right.
Alley	 A narrow alleyway on Cheriya Kadamakudy Island, bordered by a concrete wall on the left and a white building on the right.	 A narrow alleyway on East Manjanakkad Island, bordered by a concrete wall on the left and a blue barrel on the right.
Paddy field road (bund)	 A dirt paddy field road (bund) on Cheriya Kadamakudy Island, bordered by a body of water on the left and a concrete wall on the right.	 A dirt paddy field road (bund) on East Manjanakkad Island, bordered by a body of water on the left and a concrete wall on the right.

Figure 7.9: Road types of Cheriya Kadamakudy and East Manjanakkad Islands.



Figure 7.10: Connection of different road types of Cheriya Kadamakudy (above) and East Manjanakkad Islands (below).

Another significant urban space for the inhabitants of both islands is the garden. The front gardens of houses and the verandas that have access to them represent a semi-public area, whereas the back gardens of houses are semi-private and are typically used by the women of the household (see figure 7.11). The relationship between these social spaces and the settlement pattern of the islands is examined in detail in sections 10.3.1.2, 10.3.1.3 and 10.3.1.4, which respectively address religious spaces, roads and gardens.



Figure 7.11: Front and bak gardens.

7.5.1.2 Typical House and Its Relationship to the Wider Landscape

In East Manjanakkad Island, all houses are single storey. Similarly, in Cheriya Kadamakudy, the norm is single-storey houses, except for the presence of two double-storey residences. Notably, all these houses are detached and situated within garden settings, surrounded by trees, with external access via verandas at the front and rear. The veranda is a distinctive element, defining the character of the detached houses on the islands. It provides access to the inside of the house from the garden and has a compact rectangular form with a steeply angled-hipped roof. Additionally, all houses are elevated by approximately 50 cm with the use of a plinth level, thus affording protection from floodwaters, excessive humidity, and insects (Figure 7.12-7.13).

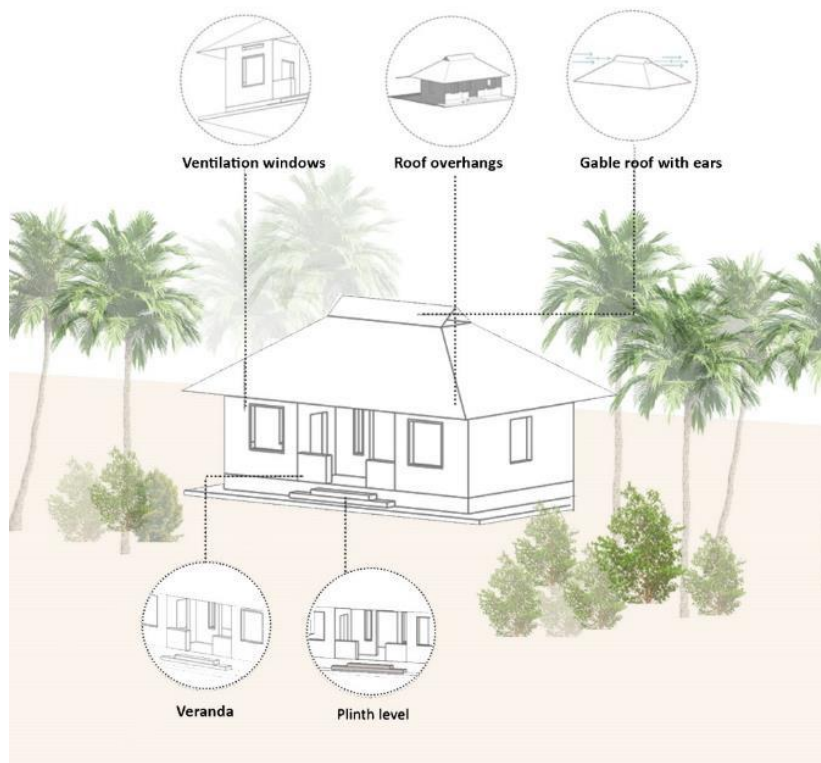


Figure 7. 12: Visual features of a typical rural house in the islands.

The houses are not isolated structures; rather, they are situated in close proximity to, and inextricably linked with, the surrounding agricultural landscape, which is characterised by expansive rice fields. In the reclaimed landscape of the islands, the houses are interconnected with the surrounding rice fields. The network is further facilitated by the presence of small paths, known as bunds, which connect the houses to each other and to the fields.



Figure 7. 13: Photographs of typical houses in the East Manjanakkad (above) and Cheriya Kadamakudy Island (below).

7.5.2 Agricultural area

On both islands, residential areas are surrounded by agricultural lands. Farming activities take place in three different locations on the islands: near the Chinese fishing nets, fishing cages and paddy fields. Chinese fishing nets (Figure 7.14) used for fishing, are standalone structures traditionally made from bamboo and now using steel pipe and are located above the water level. The ropes are pulled using the motor's power in this pier or manually, to catch the fish. Inside the Chinese net structure, there is a small hut where fishermen can stay overnight, a bench where they sort the fish and a refrigerator where they store it. On both islands, some fishermen go to the Chinese fishing nets at night. In the early mornings, they collect the fish caught through their nets and sort and sell it in the local market before returning to the island.



Figure 7.14: Chinese net* located in the backwater between Mulavukkad island and Cheriya Kadamakudy.

* Chinese nets do not involve direct physical interaction with the islands. However, they have become increasingly favoured by islanders due to their high level of profitability. This has had a significant impact on the islanders' traditional farming practices.

Fishing is also done on these islands using fishing cages. These are floating structures made from synthetic nets and buoys located close to land as in Figure 7.15. Islanders

stated that fishing cages are often a consistent source of income for islanders who are supported by government subsidies to buy larvae.



Figure 7.15: Fish cages* in Cheriya Kadamakudy Island.

*Islanders need the permission from Fishery Department to locate these cages into the island's borders and to make a profit from this activity.

The third type of farming space is the paddy fields (Figure 7.16), which are land used to grow rice, in this particular part of Kerala mix this with fish and prawn farming in a traditional aquafarming practice and using Pokkali rice that can be grown in saline water. The paddy field is made up of clay/mud bunds to retain water for rice and prawn farming. Paddy fields represent the type of agricultural space that this research is most interested in because they are an integral part of the islands' landform and, unlike the first two farming spaces described above, are geographically integrated and surround the residential areas in the islands. Typically islanders were found to spend a good amount of their time working in paddy fields, often shuttling between their homes and fishing huts in the fields during the day.



Figure 7.16: Paddy field in Cheriya Kadamakudy Islands.

East Manjanakkad Island has almost three times the agricultural area of Cheriya Kadamakudy. Considering the total land area of East Manjanakkad, approximately 94% consists of agricultural land (see Table 7.9). In Cheriya Kadamakudy, agricultural lands constitute approximately 75% of the total area of the island. In these land distributions, the distance to the nearby built environment is effective. While East Manjanakkad is limited by the mainland only from the east side, Cheriya Kadamakudy is surrounded by other islands and islets from four sides.

Table 7. 9: Islands' spatial characteristics in the agricultural area.

	East Manjanakkad				Cheriya Kadamakudy			
	Agricultural area (m ²)	Total area (m ²)	Fishing huts	Fish cages	Agricultural area (m ²)	Total area (m ²)	Fishing huts	Fish cages
Total	620,868	659,138	12	-	196,877	258,299	11	2

7.5.3 Transportation habits

When considering the islands' physical and current socio-economic structure, it is clear that 'water' is a vital factor in the islanders' everyday lives. The transportation facilities of the islands have evolved over time, resulting in differences in their current state.

These differences have inevitably affected the everyday lives of the islanders (see Figure 7.17).

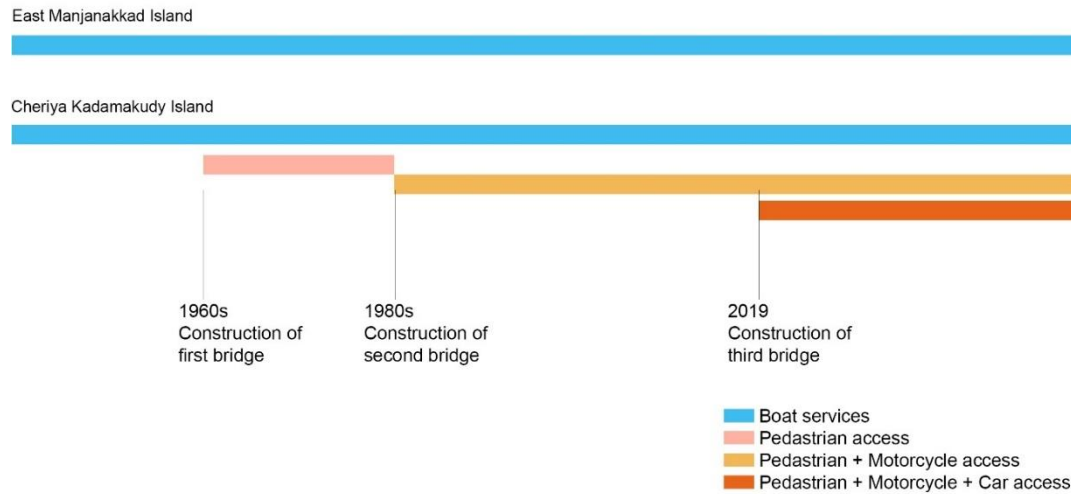


Figure 7.17: Transportation history of the islands.

Access to East Manjanakkad Island is only provided by boat. Islanders from this Island use a small boat operated by the village council or *Panchayat* (a local government body) to commute from the island to the mainland and the boat runs daily between 6 a.m. and 9 p.m. The Panchayat provided this boat which is operated by an islander employed by Panchayat for a small fee agreed. During any emergency outside the normal hours of operation, islanders can call the boat driver to borrow the boat especially if the islanders do not have their own small canoes. This boat connection is vital for inhabitants of East Manjanakkad Island due to their current dependency on the mainland for retail, educational and healthcare needs. While there is a proper boat jetty on the mainland side, the landing on the island only has a few stone steps to the waterside (Figure 7.18-19).



Figure 7.18: Manjanakkad Boat jetty providing access to EMI (left) and entrance area of EMI (right).



Figure 7.19: View of the EMI's residential area from the river.

Due to this boat connection, access to this island is in some way controlled and, as a result, is both safe and relatively isolated. Minar (farmer, EMI) emphasized the safe environment on East Manjanakkad Island by saying, *"We are at this side, we can open the door and sleep. Everyone knows each other"*. However, this boat link limits residents' to transport large household items or machinery etc to the island, for which they will have to rent canoes (Figure 7.20).



Figure 7.20: Canoes to load large goods.

In Cheriya Kadamakudy, the boat was the main transport mode until the 1980s. A rather large boat (Figure 7.21-22), belonging to the local church, is normally docked on the pier next to the church and was used by islanders for weddings, funerals, emergencies, or any other daily use. Additionally, some islanders had access to small private boats suitable to reach the mainland. However, heavy rains in the monsoon season could make their operation impossible.



Figure 7. 21: Transportation by Church's boat on the island of Cheriya Kadamakudy in the 1970s (left), Photo showing the funeral being taken from Cheriya Kadamakudy to the main church by boat in 1970s (right) (source: archive of Retired Police Officer Joseph VC.)



Figure 7. 22: The current state of the church's boat.

Cheriya Kadamakkudy Island's first road connection to the mainland was in the form of a wooden bridge made from coconut trunks in the 1960s. *"Same place where the current bridge is. Coconut trunks were placed as sleepers for the bridge. It was also high enough that boats could pass under it"* recalls Joshua (farmer, CKI). A second bridge on the eastern side of Cheriya Kadamakkudy Island is the only road connection to the mainland. However, due to weathering, poor maintenance and the impact of the 2018 floods this bridge is in very dilapidated condition, making it inadequate to meet the daily needs of the islanders. Due to the bridge's reduced width and load capacity, its use was reserved only for pedestrians and motorcycles, while the church's boat continued to be used for all oversized items. In 2019, a third bridge funded by the Southern Naval Command (SNC) was built. This new bridge is predicted to be a critical element in the future development of the island connecting the island by road network for the first time, changing islanders' travel patterns mostly abandoning previous boat links. However, the bridge's capacity (maximum 3 tons/ vehicle's height limit of 2.3 metres) does mean that transporting machinery and construction materials still relies on canoes (Figure 7.23).



Figure 7. 23: Old pedestrian bridge and Navy's metal bridge in CKI.

Similar to East Manjanakkad Island, the landform of Cheriya Kadamakudy Island surrounded by water creates a safe environment for the islanders inside (see Figure 7.24). Varun (public servant, CKI) summarizes this situation as follows: “ . . . *There is only one way to come to this island and it is surrounded by water. People (islanders) can feel safe. There is no theft in the history of the island. Because they cannot come easily.*”



Figure 7.24: Road network map of East Manjanakkad Island.

7.5.4 Landform of the islands

The landform of both islands is characterised by a combination of residential and agricultural lands. The residential lands include houses and religious structures, as discussed in section 7.5.1. The agricultural lands consist of paddy fields as discussed in section 7.5.2. The initial lands of the islands were residential lands. Agricultural lands were subsequently added by islanders, resulting in the islands' current form (see Figure 7.25).



Figure 7.25: Landforms of the islands.

The Survey and Settlement Register (SSR) documents dated 1907 (TRA 1907a; TRA 1907b) provide evidence that residents of Cheriya Kadamakudy Island (CKI) and East Manjanakkad Island (EMI) cultivated paddy in swamps situated between sandy ridges (see section 7.4.1 for farming practices in ridges). This indicates that at that time, there were no paddy fields. Then, the research conducted in 1920 (Ryder, 1922) indicates that East Manjanakkad Island attained its present landform with reclaimed paddy fields by 1930. This implies that paddy field construction was completed by the islanders from East Manjanakkad. In Cheriya Kadamakudy, reclamation through paddy field construction was still ongoing in 1930. Compared to East Manjanakkad, it gained its current form at a later date (see Figure 7.26).



Figure 7.26: British colonel map showing islands' landforms in 1922* (Ryder 1922).

* Please see appendix 15 for whole map.

7.6 Islanders' conceived space

Employing the concept of 'conceived space' in the framework developed through the literature review in Chapter 4, this section explains the mental space constructed for the islands by experts other than islanders. Therefore, this section investigates the partitioning decisions made for the islands after the land reform, the story of the stone wall built in the 1990s by the Panchayat along the borders of the paddy fields in both islands and the reasons behind its construction. Additionally, the Coastal Management Plan, dated 2011 and prepared by the Kerala government, which set out planning rules for the islands, and documents from the Kochi Water Metro project, conducted between 2015-2020, which the government promoted to address the traffic problems that Kochi experienced after its rapid urbanisation are another important source.

7.6.1 Land portioning after Land Reform implementations

In Cheriya Kadamakudy and East Manjanakkad Island, islanders owned at least 10 cents (equal to 404.600 sq. m) of land as a result of the Land Reform Act. Additionally, research determined the land type for the plots owned by islanders after Land reform through Basic Tax Register (BTR) and Survey Settlement Register (SSR) documents (KVO 1998; NVO 1998; TRA 1907a, 1907b). Three types of land use have been identified on the islands: *Porampoke*, *Nilam* and *Purayidam* (see Table 7.10).

Table 7. 10: Land use types identified on the islands based on cadastral data collection* (KVO 1998; NVO 1998; TRA 1907a, 1907b).

Land use types	Definition
<i>Porampoke</i>	Land outside of the revenue record. It is the common land belonging to the state, which is not suitable for cultivation due to its location.
<i>Nilam</i>	Cultivable land typically in these islands refers to paddy fields
<i>Purayidam</i>	Dryland, suitable for building constructions.

*This table was produced based on archival data from BTR and SSR documents by the author.

The above classification of land (see Figure 7.27) determined the nature of activities (agricultural or building construction) allowed on land in the islands. During the fieldwork, it was found that farming activity in the islands corresponds to the 'nilam', and the residential building location corresponds to the 'purayidam'. Porampoke, on the other hand, is associated with the lands belonging to the government that can be used neither for agriculture nor for housing purposes.



Figure 7.27: Assigned plot types*

*These maps were produced based on archival data from BTR and SSR documents by the author.

Furthermore, according to a survey study recorded in the Field Measurement Book and Basic Tax Register document regarding land portioning of Cheriya Kadamakudy Island in the 1990s, the island was divided into 16 main parcels and each parcel was further subdivided before being given to farmers living in this island. Since the survey date was after the Land Reform, it depicts this island's closest situation to its current parcel division, as shown in Figure 7.28 below. When the transactions showing the landholders of the plots are examined, it is possible to confirm that ownership has changed hands, and the islanders are now the landowners. However, there were a few islanders of Cheriya Kadamakudy Island who owned land on the island even before the reform. However, no information has been found on how they obtained land ownership.

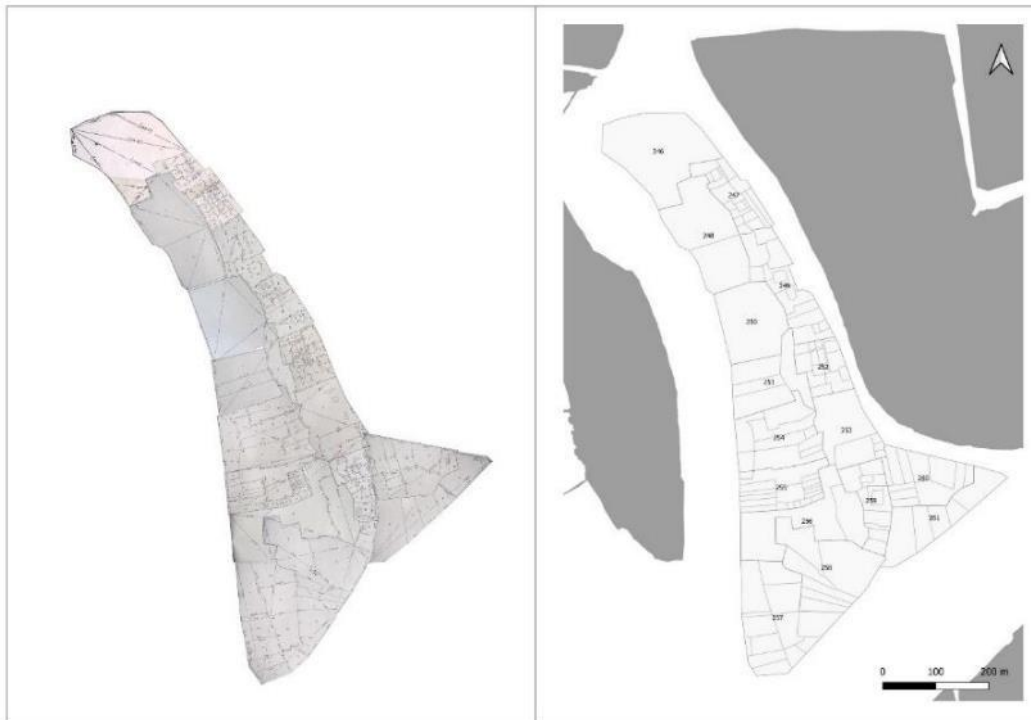


Figure 7.28: Map showing land partitioning in the 1990s (left) (KVO 1990) and a map* showing parcel boundaries and sub-divisions today (right) on CKI.

*This map was created by the author with data collected during the archival study from Kadamakudy Village Office by combining Sketch Maps which were prepared separately in the 1990s for each plot in the Field Measurement Book (see example page of FMB in section 5.3.2.1). The map on the right was created by the author by transferring the cadastral data obtained from the archives to the QGIS environment as geospatial data.

Likewise, on East Manjanakkad Island, the islanders are the real owners of the plots now, but there have been changes in parcel partitioning after the land reform. Even though there was still fragmented parcel division before land reform, this similar portioning currently exists under the 31 original main parcels assigned to the islanders by the reform (Figure 7.29). The land reform, however, is not the only way in which the islanders of East Manjanakkad Island came to own their land: as stated by a group of islanders of EMI, in return for their services, some landlords had granted land to their ancestors. That's why some of the islanders are listed as owners of the plots on the SSR document dated 1907. Ravi (farmer, EMI) summarized how her ancestors came to own land within the pre-existing semi-feudal system on the island:

“The landlord had paddy fields here. In order to take care of it, our forefathers were brought here. The landlord granted the land (to our

forefather) as a gift because he had been here for a prolonged time when he got married and settled here. As a gift of choice. “



Figure 7.29: Map showing previous land partitioning (left) (*TRA 1907b*) and a map showing parcel boundaries and sub-divisions today (right)* on EMI.

* The map on the right was created by the author by transferring cadastral data to the QGIS environment.

Land reform has deeply affected the everyday lives of islanders living in Cheriya Kadamakudy and East Manjanakkad Island. After the Land reform, the central government started to regulate the land ownership status of the islanders and what rights they had on the lands they acquired.

7.6.2 Role of Panchayat

Another important factor in shaping the landform on the islands (or preventing its expansion) is the stone wall built by the Panchayat along the borders of Cheriya Kadamakudy and East Manjanakkad Islands (Figure 7.30). In the 1990s, Panchayat constructed this wall to prevent floods on the islands. However, the islanders claim that the enclosure of their island with stone walls was done to avoid further expansion towards the sea through land reclamation. Joshua from CKI explained the panchayat's construction as follows: *“They prevented us from expanding the island towards the sea, but they told us that we did it to protect the island from floods. “*



Figure 7.30: Photo showing the construction of the stone wall built by the government in the 1990s (source: archive of Dear Shobana living at EMI).

Panchayat, as the rural local government body, is also an important authority in rural areas and plays an important role in granting the necessary permits for building construction, inspecting the rules regarding all constructions conducted, providing infrastructure services and ensuring sanitary conditions in both islands. Therefore, these rural bodies made some arrangements and interventions to enclose the contours of the islands with stone walls. Since the wall was built in the 1990s, both islands have been prevented from expanding towards the sea.

7.6.3 Construction restrictions based on Coastal Regulation Zone

Other essential planning decisions affecting the spatial structure of the islands were made by the Kerala government under the 'Coastal Regulation Zone (CRZ) Notification' (see section 6.8 for fundamentals of CRZ). Although the CRZ rules had been adapted to better fit Kerala's unique geographical structure, they still did not work for small islands in practice, especially considering their limited width. In fact, apart from large islands, many small islands built up in the backwaters of Kochi include parcels extending beyond the boundaries of the HTL or having a total width that does not allow to meet the 50-meter rule. For these, the 50-meter rule represented an obstacle to the island's development.



Figure 7.31: Coastal zone management plan of Kerala for East Manjanakkad Island (left) and Cheriya Kadamakudy Island (right)* (KCZMA 2011).

* These maps were prepared by the National Centre for Earth Science Studies and the Department of Environment, Government of Kerala.

According to the Coastal Zone Management Plan of Kerala, in CKI and EMI, residential land boundaries overlapping with the high tide line, and the land categories of the islands falling under the "CRZ III No development zone", should have no development within 50 metres from the high tide line. Considering the 60-meter width of CKI and the 50-meter width of EMI in total, the imposition of this constraint posed a significant obstacle to the development of the islands (Figure 7.31). This issue was largely eliminated with the replacement of the 50-metre rule with a 20-metre rule in 2019.

Yet, some of the houses built between 2011 and 2019 were built without permission from the Panchayat, which led to infrastructure services not being provided to the houses. Aaron (farmer, CKI) describes the impact of the former CRZ rules on the island as follows:

“There is a limit of distance from the bank of the river... The law was amended and now we can build houses 20m away from the river and 6m away from paddy fields but I haven't got a permanent house number yet, still a temporary one so I need to pay about Rs. 2000 to the panchayat every year.”

7.6.4 Kochi Water Metro Project

In 2018, after being authorised by the Government of India, a field study was conducted by the Remote Sensing Institute at Anna University for the proposed Kochi Water Metro Project (Figure 7.32). During this research, measurements were made to determine the limits of HTL, LTL and CRZ for constructing and improving boat jetties at 46 different transport nodes in Kochi (IRS 2018). Following this fieldwork, KMRL has proposed the construction of an additional seven terminals on top of those that had already been identified. Among these, the Njarakkal Boat Jetty which will be built in the exact location of the existing one, is used by local residents to access the EMI, for public use as a part of the project. Also, a major jetty service should be built on Valiya Kadamakudy island, in the north of Cheriya Kadamakudy, in phase 2 of the project (KMRL 2019).

The government's metro project, which was put forward as a solution to the infrastructure problems experienced by the city of Kochi, mainly on the mainland, and the water metro projects it subsequently implemented with the mission of revitalizing traditional transportation systems, also closely affect the islanders. Currently, the metro project serves the coastal area only with a station called Ernakulam South, but the transportation habits in the northern region where the islands are located will undergo a radical change when the water project metro is completed in the future. Access to the islands will be easier thanks to the jetties' stations that will be built in the immediate vicinity of the islands.

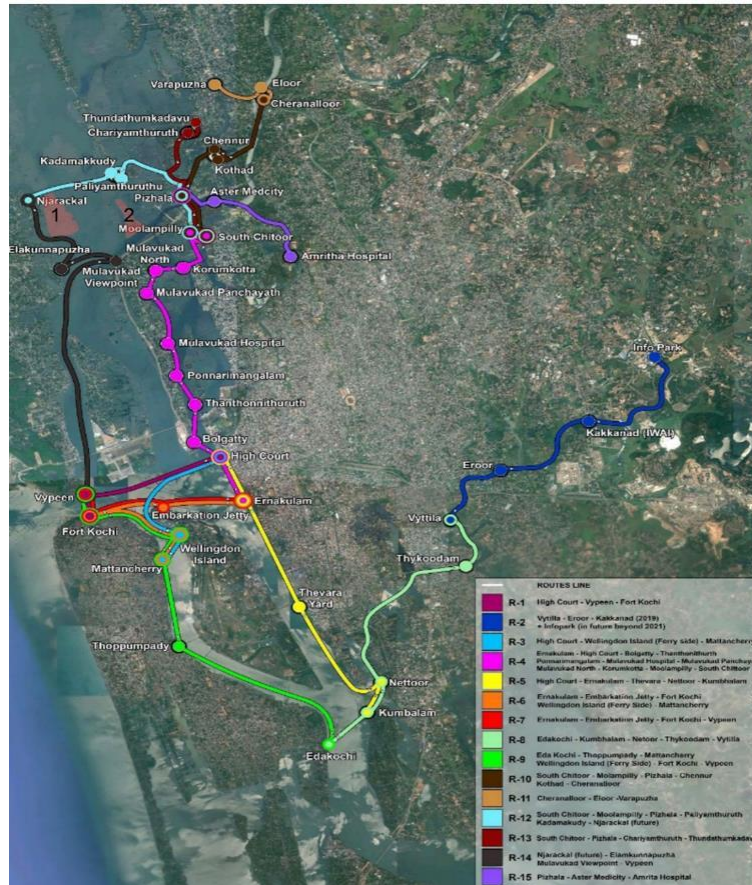


Figure 7.32: Identified Network Map of Kochi Water Metro Project* (KMRL 2019). Legend: (1) East Manjanakkad Island (2) Cheriya Kadamakudy Island.
*The locations of the two islands selected as case studies have been added by the author to this map prepared by Kochi Metro Rail Limited.

7.7 Conclusion

This chapter introduces the case studies through data obtained from desk-based spatial, archival research and fieldwork conducted in Cheriya Kadamakudy and East Manjanakkad Islands. This chapter defines the physical space of the islanders under two subsections: residential areas and agricultural areas and it shows that islanders' everyday lives are embedded within perceived and conceived spaces: they shuttle between these areas many times during the day, and both islands function as living organisms. Approximately 25% of Cheriya Kadamakudy Island's total surface area consists of residential areas. In East Manjanakkad, the majority of the total surface area consists of agricultural lands. The increase in the number of houses under construction in Cheriya Kadamakudy has been seen especially after the bridge built by the Navy in

2019. On the other hand, the islanders of East Manjanakkad are experiencing major problems in housing construction due to the difficulties of transportation only by boat (Table 7.11).

Table 7. 11: Comparison of number of dwellings and land use.

	Number of dwellings	Number of dwellings under construction	Available means of transportation	Residential area (m ²)	Agricultural area (m ²)	Total area (m ²)
EMI	42	2	Boat	38,270	620,868	659,138
CKI	62	4	Boat Car	61,422	196,877	258,299

This chapter also identifies how these spaces are shaped by the institutions through the creation of the conceived space. Particularly, it identified the institutions that have a significant impact on the space production of rural society living in the selected islands in Kochi, Kerala. In pursuit of this aim, it described what kind of mental constructions made by the central and local government bodies influence the space of this rural society. Thus, the research provides a chronological evolution of the conceived space of the islands administered by the government and experts in relevant fields and a description of how these planning decisions have been implemented within the village.

CHAPTER 8

CHAPTER 8: EFFECT OF NATURAL FACTORS ON ISLANDS' LANDFORMS AND SETTLEMENTS' SPATIAL MORPHOLOGY IN BACKWATERS OF KOCHI

8.1 Introduction

This chapter introduces initial data analysis regarding how Kochi's unique climate, which manifests itself differently throughout the year, has shaped the landforms of East Manjanakkad Island and Cheriya Kadamakudy Island throughout history. Specifically, this chapter addresses the third question of this research:

- How does the natural land formation process inform the production of space in settlement?

In this chapter, the findings from the descriptive analysis are presented in conjunction with the data obtained from spatial, archival and ethnographic research. This chapter also considers the natural factors related to the natural land formation process of the islands.

8.2 Naturally and organically land reclamation of Cheriya Kadamakudy and East Manjanakkad Islands

The main focus of this research is a specific type of land reclamation, which starts due to natural factors and follows a principle of bottom-up planning that blends harmoniously with its environment. This was called 'natural and organic land reclamation' within the classification presented in section 2.4 and based on the land formation process. The concept applies to the two selected islands as these formed through a reclamation process, initially triggered by natural factors (see Section 8.3), then shaped by residents' everyday life practices, and defined by possibilities or constraints dictated by natural factors without centralized planning (see Section 8.4). These two stages of the natural and organic land formation process of the islands have been presented below.

8.3 Natural land reclamation and natural factors affecting the initial formation of the islands: Residential areas

In the backwaters of Kochi, the seeds of natural reclamation first occurred and manifested in the solid layers formed on the surface of the seawater before humans started reclaiming the land. Kochi's coast has diverse sedimentary environments and landforms including barrier islands, lagoons, and flood plains as previously presented in Section 6.6. Both islands are located in the area where the main channel of the estuary meets the branches of the Periyar River in this coastal environment.

The initial formation of the islands was contingent upon the monsoon-related currents originating from the Periyar River and flowing into the Arabian Sea (see Section 6.6 for a detailed discussion regarding the land formation of Kochi). During monsoon rains, the rivers originating from the Western Ghats, especially the Periyar River, collect the sediments from the interior regions and discharge them into the water of the Arabian Sea. While Kochi receives significant rainfall throughout the year, it reaches its peak during the monsoon season between June and September (see Table 6.1 for rainfall data). This period is particularly effective in forming the natural lands of the islands. In Kochi's estuary, fresh water from the river and salty water in the sea meet during monsoon seasons. In this way, various sediment deposits begin to form in the Kochi estuary. Since the water from the Periyar River to the estuary is less salty and less dense than the water coming from the ocean (see table 6.3 for salinity rates), the soil collected by the river water, due to the density difference, begins to deposit at specific points.

In other words, the islands' story starts with this accumulation of soil in Kochi's backwaters, near the estuary, where waters of different salinities mix and the speed of the water slows down as seen in Figure 8.1. When an islander was asked how the island might have been formed, and if they were aware of the role of nature in this formation, Sahayaka (public servant, CKI) said that *'Fresh water comes from the main river 'Periyar' and here the salt water of the ocean and the fresh water mix. This is exactly what we call the estuary.'*

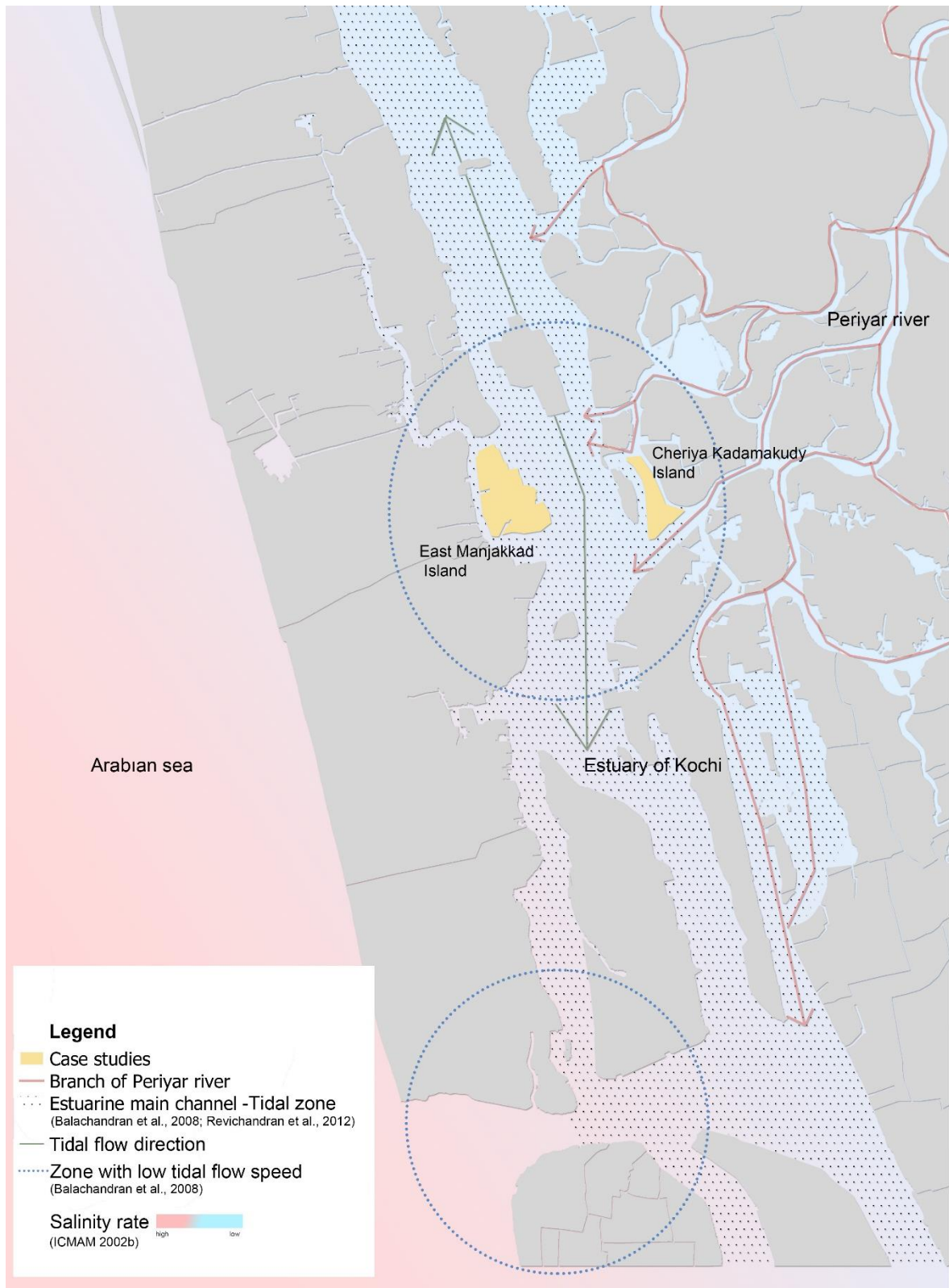


Figure 8.1: Locations of Cheriya Kadamakudy and East Manjanakkad Islands in the Kochi Estuary.

In addition to monsoon rains, another critical factor in the formation of the islands' initial lands is the variation in sea level at Kochi throughout the year and even on a monthly basis.

The monthly mean sea level varies considerably, with the maximum tidal range being 1 to 1.2 metres (see Section 6.2.2 for tidal range in Kochi), causing a layer of sediment to form from time to time around the small islands in the city's backwater.

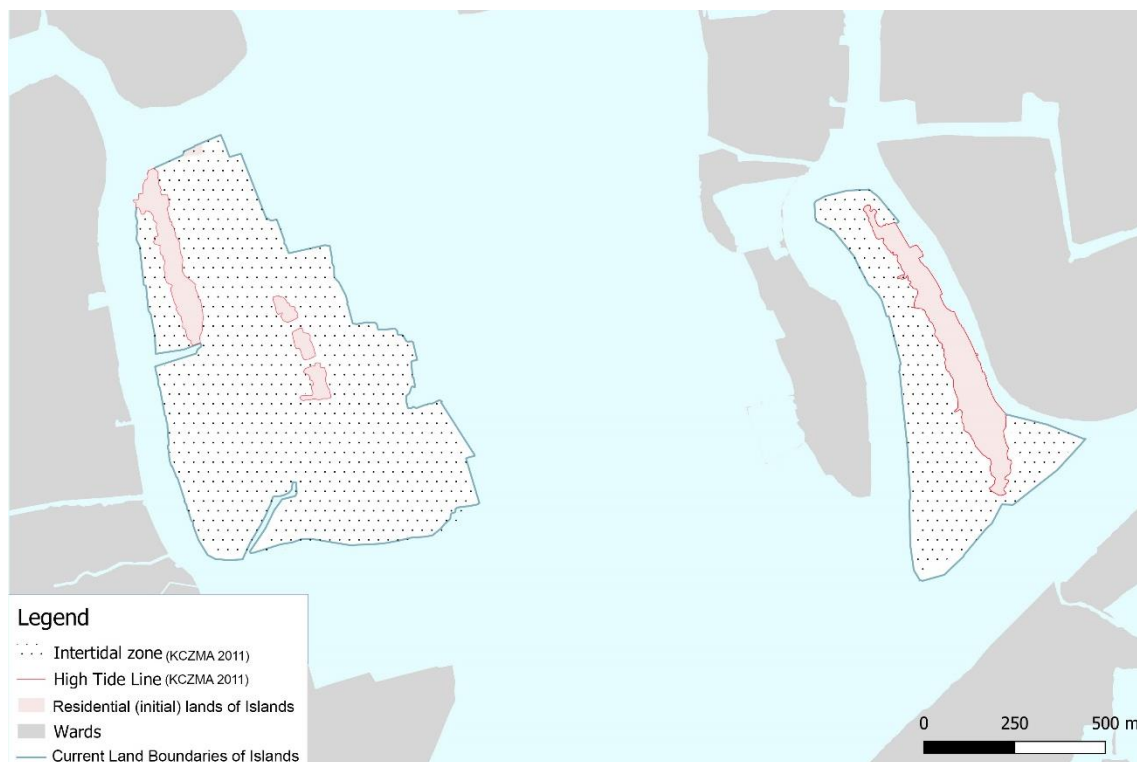


Figure 8.2: Initial and current land boundaries and intertidal zones for East Manjanakkad Island (left) and Cheriya Kadamakudy Island (right).

At this point, Cheriya Kadamakudy and East Manjanakkad islands become one with the low-lying land that emerges as the water recedes from the sea. This low-lying land is called the intertidal zone and lies between the low tide line and the high tide line, where the water meets the land (see Figure 8.2).

8.4 Organic land reclamation and natural factors affecting the formation of the islands over time: Agricultural areas

After the islands take their initial form through natural land reclamation and become available for human occupation, the 'organic' land reclamation process begins at the hands of a group of people. However, natural factors are influential also in this phase. In Cheriya Kadamakudy and East Manjanakkad Islands, the islanders initiated this organic reclamation process for agricultural purposes by building a new layer of soil on the intertidal zone surrounding the initial land mass. This land reclamation process was informal and independently led as

opposed to formally led by planners, architects or experts. Suraj explained this informal process as follows: “Before 20 years, they got this property as their own. because people used to do this bunding (construction of agricultural area boundaries). If we had kept it (agricultural area) for 5 years, it means the government would have given this property to you. That was years before.”. 14 of the 18 interviewees indicated that they had constructed the agricultural areas surrounding the island in accordance with their needs, utilising their own construction techniques and had undertaken renovations when necessary. This bottom-up and self-organizing process, gives the islands’ form its “organic” character, while the initial reclamation step explains the use of the word “natural” in the process’ naming.

Cheriya Kadamakudy and East Manjanakkad Island have been affected by tidal flows (see Figure 6.3 in Section 6.2.2), sea level rise due to severe floods caused by heavy rainfall (see Table 6.1 for rainfall data in Section 6.2.1) and high salinity rate throughout the monsoon season (see table 6.3 for salinity rates in Section 6.2.3), over time. Antonio (Retired, EMI) sees the increase in water level around the island as the biggest threat for its inhabitants, *“Only a matter is if the water level rises.”* Sea level rise, tidal flows and salinity have adversely affected islanders' livelihoods who struggled to adapt to the evolving environmental conditions to maintain their economic well-being (see Figure 8.3). The challenges posed by extreme rainfall, especially during the monsoon, along with the high salinity of the water and tidal flows throughout the year, have had profound effects on farmers' agricultural activities. Meaning that it was increasingly difficult for islanders who relied on monoculture to make a living from it (see Section 7.4 for transition in farming practices of islanders).

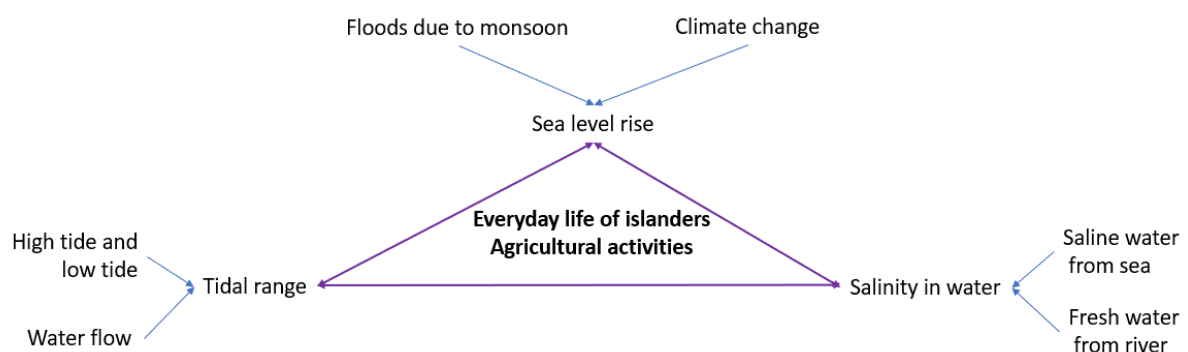


Figure 8.3: Natural factors affecting land formation and use in the islands.

The 1907 survey and settlement documents of the villages where these two islands are located (TRA 1907a; TRA 1907b) reveal that the islanders relied on rain-fed monoculture cropping for paddy cultivation in swamps between sandy ridges. The environment was particularly susceptible to the effects of monsoon rains, saline water and tidal flow. Therefore, islanders applied to land reclamation for agricultural purposes because, historically, one of the biggest problems for agriculture in low-lying lands of Cheriya Kadamakudy and East Manjanakkad Islands was the yearly destruction and reconstruction of the whole system, due to floods hitting Kochi during the monsoon season. Furthermore, these swamps in low-lying of islands were exposed to tidal water throughout the year and contained high salt levels. This limits planting to during the post-monsoon period and the pre-monsoon period when the effect of salt water eased (and all the salt water was drained from these swamps).

As mentioned earlier in this thesis (see Section 7.4), in response to the need for a more resilient agricultural system that would be more sensitive to the local climate, islanders devised the 'Bund system (rotational farming): a region-specific farming method invented in this region and practised in the salty backwaters of Kerala. This innovative system, designed to minimise the damage from monsoon rains and benefit from the tidal water change, replaced the monocropping culture. This coincided with a shift in production relations among the islanders living in Cheriya Kadamakudy and East Manjanakkad Island.

During the monsoon season, the paddy fields constructed by islanders became instrumental in protecting assets and people from floods caused by the heavy rains, as well as from saline water accumulating at the mouth of the river and changing water levels due to tidal flow. It follows that the rice cultivation and fishing system developed by the islanders not only provides them food security but also enhances their capacity to cope with natural hazards by turning local climatic conditions into an advantage.

Therefore, the transition from monoculture farming to rotational integrated farming has also influenced the spatial organisation of the islands, transforming low-lying strip farming into a pond system surrounded by soil bunds (Figure 8. 4). Thus, the landform of the islands was shaped according to the changing agricultural practices of its inhabitants and their needs. Currently, the places where the 'Rotational Pokkali-Prawn farming' is practised in Kochi are the 'paddy fields' surrounding the residential areas of the islands.

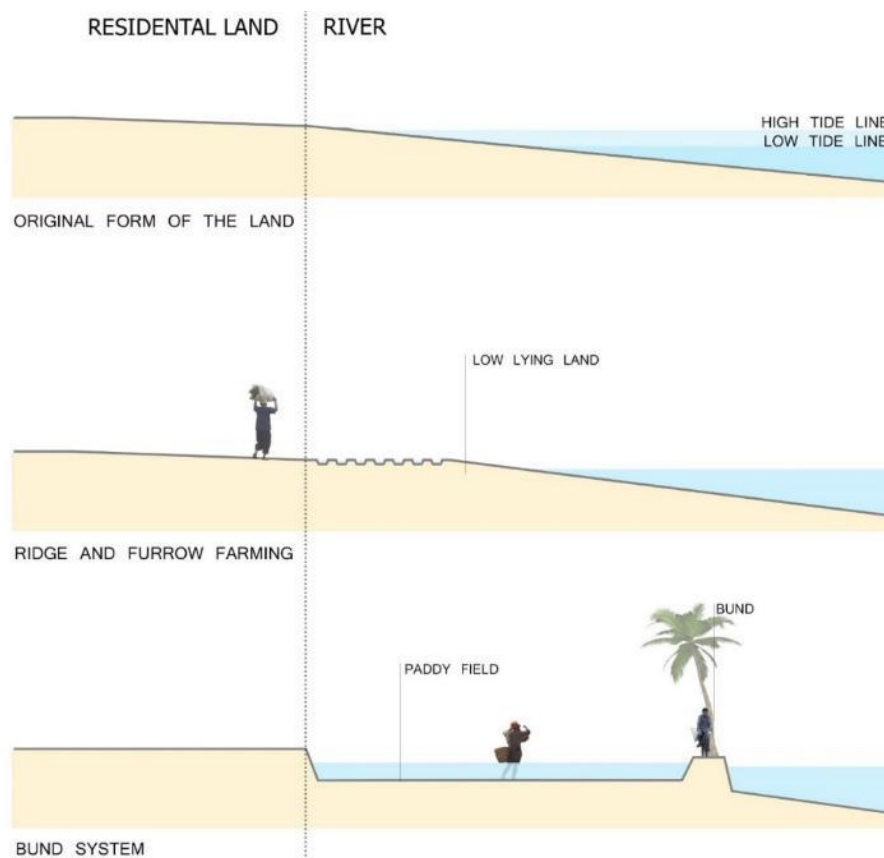


Figure 8.4: Transition from ridge and furrow farming to bund system.

12 of 18 interviewees emphasized that when the flood occurred in 2018, all the islanders left their homes, and most of them settled in a relief camp on the mainland until the effects of the flood subsided. Yet, the bund system consisting of paddy fields surrounding both islands enabled to temporarily store water during the flood, reducing its pressure on the residential land and preventing sudden rises in water levels. From the interviews conducted with the islanders, it was possible to sense that inhabitants are aware that rice fields are effective in controlling floods. Particularly, Suraj from CKI stated: *“The flood in 2018 can be told be less affected here as paddy is all around here. . . . The water is at the highest level during Vrischikam (Malayalam month during Nov-Dec). Usually, the water submerges the low-level land only but last time (August, 2018), the water entered almost all houses here.”* This indicates that, while the effects of the flood were mitigated by the presence of paddy fields,

the severity of the hazard was so high that they could not prevent water from entering the islanders' houses (Figure 8.5).



Figure 8.5: Condition of one of the houses in East Manjanakkad Island after the flood in 2018.

While rice is generally suitable for cultivation in waterlogged areas, Pokkali can grow up to 2 metres and thus survive during Kochi's monsoon season (June to October). Furthermore, while a climate-induced increase in water level in Kochi is expected in the coming years under different scenarios (see appendix 7), this is unlikely to affect the cultivation of Pokkali adversely as the paddy fields will be able to provide it with an appropriate water environment to grow safely.

In addition to sudden increases in water levels during the monsoon period, slow-onset rises are also happening due to climate change. Islanders are aware also of this incremental increase in water level caused by climate change as evidenced by Suraj (public servant, CKI) statement that *"The situation is that we need to leave here in 10 years due to the rising water level. . . . The water level rises every year."* One of the most significant tangible effects of the rising water level due to climate change is the comparatively greater difficulties that the islanders now experience while reaching the island during the high tide period (Figure 8.6).



Figure 8.6: Change in water level due to tide in EMI based on the observation made on the islands in April, a difference of approximately 70-80 cm in water level due to tide was noticed.

8.5 Protecting existing land through land reclamation

In picturing how the islands grew through reclamation, it was explained how islanders expanded their lands through fishing activity is reflected in the islands' spatial organisation. However, it should be noted that another land reclamation process on the islands cyclically repeats in specific locations (Figure 8.7), even after the construction of the paddy fields, to mitigate soil erosion. Islanders regularly carry out this process after each monsoon season. Additionally, Ravi (Farmer, EMI) described the flood as the main driver for re-engaging in a land reclamation process: *'When we bought it, the land was in very good condition with fine sand. The quality was lost during the flood as the soil eroded and was sunk into the water.'*



Figure 8. 7: Stages of land reclamation process conducted in EMI.

When such a need arises, islanders decide the amount of soil to be collected and added according to the size and depth of the area to be filled and arrange a boat of suitable size for its transportation. Then, they load the soil from 'Mulavukkad' (Figure 8.8) and unload it to a point that their boat can approach comfortably. When this is done, they carry together sacks full of soil to the area they want to reclaim. All the loading and unloading operations are performed based on an organised division of labour between the islanders.



Figure 8. 8: Reclamation routes and reclaimed areas.

8.6 Conclusion

This chapter examined the influence of natural factors on the formation of the landforms of Cheriya Kadamakudy and East Manjanakkad Islands and divided the formation process of the islands' landforms under the influence of natural factors into two phases. The first phase is the formation of the islands under the direct influence of natural factors through the natural land reclamation process, and the second is the modification of the landforms with the intervention of the islanders as a result of natural factors affecting agricultural activities through natural and organic land reclamation process over time.



Figure 8. 9: Formation of residential and agricultural areas of Cheriya Kadamakudy (above) and East Manjanakkad (below) Islands over time through natural and organic land reclamation.

Residential areas of Cheriya Kadamakudy and East Manjanakkad

The existence of the initial landform of islands depends on the monsoon-related discharges from the Periyar River into the Arabian Sea. The Kochi estuary is where the Periyar River's fresh water meets the Arabian Sea's salt water, resulting in the formation of islands. The southwest monsoon rains are the most effective factor in the transportation of sediments from the river to the sea, and thus in the formation of the residential lands of the islands.

Secondly, the water flow rate is a significant factor in the formation of the islands. The Kochi estuary, with a relatively low flow rate of water, allows sediments to precipitate, as is the case with other naturally formed islands in the Kochi estuary. Thirdly, the tidal currents in the estuary also played a significant role in the formation of the islands, creating strong currents that accumulated sediments in the estuary of Kochi. Finally, mangroves played a pivotal role in the trapping of sediment as it accumulated, due to their dense root system.

Agricultural areas of Cheriya Kadamakudy and East Manjanakkad

In both islands, the expansion of agricultural land towards the estuary by surrounding residential land has been achieved through natural and organic land reclamation, influenced by natural factors, to create agricultural areas. The most effective natural factor in the reclamation of agricultural areas is monsoon rains. The fact that the region is frequently under monsoon rains has resulted in the islanders obtaining agricultural land through paddy field construction. Another significant natural factor influencing the formation of agricultural areas of islands is tidal flow. The islands are situated in an intertidal zone, where they are exposed to the effects of saltwater, which erodes the land and damages crops. In order to minimise the damage caused by tidal flow, islanders constructed paddy fields and sluice gates to regulate the tidal flow.

In conclusion, the initial forms of the islands, which originated from the natural process of land reclamation, were subsequently expanded by the islanders through further land reclamation to create agricultural areas that are resilient to natural factors in the form of a layer surrounding the residential areas of the islands (Figure 8.9).

CHAPTER 9

CHAPTER 9: EFFECTS OF NATURAL FACTORS ON EVERYDAY LIFE PRACTICES OF ISLANDERS

9.1 Introduction

This chapter aims to show the relationship between natural factors and the everyday life practices of inhabitants, considering the landform of islands and their vulnerability to climate change and natural hazards. Thus, the intention was to address the second research question raised at the beginning of this research. This question was:

- How do natural factors affect the everyday life practices of islanders?

As discussed in Chapter 5 (Methodology), the research used spatial, documentary and thematic analysis. The data from the main and sub-themes of everyday life practices (Table 9.1) and natural factors (Table 9.2) were subjected to analysis.

Table 9. 1: Key themes identified about everyday life practices.

Themes	Sub-themes
Family life	Family relations Kinship relations Rituels Traditions Functions
Work life	Ridge and furrow farming Rotational farming

Table 9. 2: Key themes identified about natural factors impacting the land reclamation process.

Themes	Sub-themes
Landform	Morphological characteristics of islands
Climate	Rainfall amount Salinity rate Tidal flows Sea level change
Hazards	Floods Land erosion

9.2 Family Life

9.2.1 Impact of landform on kinship practices and functions

The geographically isolated landforms of the islands have led to the formation of strong kinship relations and have resulted in a unique way of life for the islanders, characterized by a strong division of labour due to limited access to the mainland (see Figure 9.1 showing kinship relations through house names). The populations of islands are predominantly composed of a few dominant households. On both islands, these islanders are either close relatives or long-time neighbours. In East Manjanakkad, the islanders share a remarkably strong bond with each other. Ravi (farmer, EMI) drew attention to the division of labour among the islanders for the wedding: *“The marriage function has two different days: the day of marriage and the day before it. When it was the day before, we used to come together, cook, sing songs, and dance.”* Also, Bhavya (housewife, EMI) summarized the duty of the neighbours of the house where there is a funeral by saying, *“People are very cooperative. In case of anyone’s demise, nobody from the island goes to work. The house next to will make food.”*



Figure 9. 1: House names (left: Cheriya Kadamakudy, right: East Manjanakkad island).

A similar unity exists among the islanders in Cheriya Kadamakudy, although this bond is perceived to be weaker by islanders than it was in the past. Aaron (farmer, CKI) said that the duties previously performed by the islanders have now been delegated to catering companies: *“In older days, everyone used to gather for every function. If there was a funeral, everyone would be there. Before marriage, they were cooking here in their houses itself. It was like that before. Now everything is different . . . Now everybody is giving it (this duty) to catering people. At that time it was a very good bond.”* Meena (farmer, CKI) also summarized this situation on Cheriya Kadamakudy island as follows: *“In older days it was like a joint family. Everyone was there for every function. They were staying at home for a long day to chase everything for everyone. Now people don't have much time. Their relationships are changing. The mentality is also changing.”*

The islands' residential land size has an impact on the number of households living on the same parcel and therefore on the family life of islanders. In the relatively larger residential land of Cheriya Kadamakudy Island, the majority of families live in the same house on a single plot. In East Manjanakkad Island, the proportion of plots comprising multiple houses belonging to family members of the same lineage with shared gardens is relatively higher than Cheriya Kadamakudy Island due to the limited surface area (Table 9.3).

Table 9. 3: Comparison of the plot types of Cheriya Kadamakudy and East Manjanakkad Islands.

Plot types	Cheriya Kadamakudy Island		East Manjanakkad Island	
	Number of plots	Percentage	Number of plots	Percentage
A plot with one house.	31	77.5	14	58.33
A plot with two houses and shared garden.	4	10	8	33.33
A plot with three houses and shared garden.	1	2.5	-	-
A plot with four houses and shared garden.	2	5	1	4.17
A plot with five houses and shared garden.	2	5	1	4.17
Total plot number	40		24	
Residential land surface area (m ²)	61,422		38,270	

Furthermore, the difference in the ease of access to the mainland from the island is one of the main reasons why the division of labour on Cheriya Kadamakudy island has recently changed, while it has remained the same on East Manjanakkad island. The islanders of Cheriya Kadamakudy have had a bridge since the 1970s (see Figure 7.17 in Section 7.5.3 for the transportation history of the islands). The islanders living in Cheriya Kadamakudy have the advantage of being relatively free from transportation limitations imposed by the island topography. This has allowed them to access opportunities on the mainland and adopt a more independent lifestyle, further from strong kinship relations. The use of the bridge as a means of transport, rather than only boat transport to the mainland, has resulted in the islanders of Cheriya Kadamakudy becoming more spatially and economically integrated with the mainland.

On the other hand, the islanders of East Manjanakkad travel to the mainland solely by boat at certain times of the day. East Manjanakkad island's isolated landform presents significant challenges in meeting the basic needs of the islanders, such as education and healthcare. Because trips of islanders to the mainland are often disrupted, particularly during the monsoon season, considering that it rains at least twenty days a month for six months between May and October. The slightest change in the weather affects the East Manjanakkad islanders' access to the mainland. As a result, these islanders have developed close-knit relationships with their kin and neighbours to provide mutual support within the island. Especially towards the end of the monsoon season, the seaweed that accumulates in the water disrupts the transportation of the islanders. Bhavya from EMI summarized the impact of the monsoon rains, especially on the everyday life of the child islanders, with the following words: *“When that (seaweed) comes, it is difficult for us to move by boat. . . This thing (seaweed) is coming mainly in September and October . . . After the grass comes, it is very difficult for boats to move so children are not going to school. . . We need a road and bridge.”*

Monsoon rains also have an impact on the timing of certain functions and activities. Periods without monsoon rains are preferred by islanders for performing functions such as marriages or festivals. Especially during the monsoon period from June to September due to heavy rains and the summer season from March to May due to extremely hot and humid weather, islanders refrain from planning any special festivals or weddings. Winter from November to February and the post-monsoon season from September to November offer the islanders the

most favourable environment for outdoor activities. During this period, which is characterized by cooler temperatures and decreased rainfall, open-air ceremonies and celebrations can be held more reliably by islanders.

9.2.2 Impact of landform on religious rituals

The vegetation of Cheriya Kadamakudy and East Manjanakkad Islands has been instrumental in shaping the distinctive rituals observed on the islands. The mangrove, which has adapted to the salty environment of the islands, is the main plant that makes up the unspoilt and dense vegetation cover of both islands. The presence of natural vegetation in the southern region of East Manjanakkad Island significantly influences the islanders' rituals. In this area, the Sarpa Kavu and a particular area in its vicinity, which forms the island's southwestern corner, are located and reserved for the cult of serpents. This area, situated within a natural environment comprising mangroves, was deemed an appropriate location for the establishment of Sarpakavu. During the Onam festival, regular poojas (ritualistic worship) are conducted both in the temple and in the Sarpakavu. Furthermore, a procession is held between the temple and Sarpakavu.

During the temple festivals, the islanders of East Manjanakkad undertake a procession from the temple to Sarpa Kavu. Indeed, the islanders have established a strong connection between the celebrations of the festivals, the visit to the kavu and nature. As the festival date is calculated according to the Malayalam calendar (see months of Malayalam Calendar in Section 7.4), the islanders are unable to provide an exact date. Nevertheless, the festival is held approximately between January and February. Annapurna (farmer, East Manjankkad Island) explained the celebration process as follows:

"We have a temple festival annually Procession to kavu (the sacred grove) on the eastern side of the island is the main event held during the festival.... Puja is done there. We prepare payyasam (rice pudding) as an offering to the deity and share among us. We all turn up for it."

The island of Cheriya Kadamakudy is home to a population that is comprised of both Hindu and Christian individuals. This coexistence has resulted in the construction of a temple and a church on the island. The temple is situated in a natural setting, surrounded by trees, in a manner similar to the one on the island of East Manjanakkad, situated towards the rear of the island. In contrast, the church is situated in a prominent position on the island. Due to the

limited space available on the island, the cemetery required by the Christian faith is not present on the island. Consequently, the islanders are obliged to attend the main church in Moolampilly for funeral procedures. The Hindu population of the island is responsible for the upkeep of the temple and the fulfilment of the obligations associated with the festival. Yashita (housewife, CKI) explained the role of Hindu families as follows: *“Each family lights lamps there daily, usually at 5 or 6 pm, on a weekly rotation. . . It is for families of the temple”*.

9.2.3 Impact of climate on evaluation of knowledge

The climate of Kochi has been a significant factor in the evolution of islanders’ knowledge, influencing the development of a healthy relationship between humans, nature and architecture. The architects of all 42 houses on East Manjanakkad Island are islanders. Similarly, 59 of the 62 houses on Cheriya Kadamakudy Island are islanders. Following the catastrophic flood in Kerala in August 2018, the Indian Navy constructed three houses in Cheriya Kadamakudy.

A survey of the houses constructed by the islanders on both islands reveals that they have developed their own distinctive design and construction practices. The passive environmental design strategies employed by these architects are naturally aligned with Vastu Shastra principles. In both islands, the majority of houses have their entrances oriented towards the east as seen in Table 9.4.

Table 9. 4: Comparison of the dwellings of Cheriya Kadamakudy and East Manjanakkad Islands.

	Cheriya Kadamakudy Island		East Manjanakkad Island	
	With east entrance	Without east entrance	With east entrance	Without east entrance
Dwellings constructed by islanders	54	5	34	8
Dwellings constructed by Navy	2	1	-	-
Total	56	6	34	8

The knowledge aligns with Vastu Shastra principles, which indicate that the entrance door should face east or northeast in order for beneficial energies to penetrate into a house. This affects building orientation in the islands (see Figure 9.2). The inhabitants of the islands employed building orientation as a passive design strategy to ensure thermal comfort, considering the amount of solar radiation falling on the buildings' surfaces and the prevailing wind directions. The decision of the islanders to construct the entrance to the house in the east was influenced by the veranda situated in front of it. The majority of buildings on the islands were fronted by an indented veranda oriented to the east. The verandas serve as a venue for social interaction among the islanders, who utilize them for various activities throughout the day.



Figure 9. 2: Map showing entrance directions of houses (left: Cheriya Kadamakudy Island, right: East Manjanakkad Island).

9.3 Work Life

Based on the survey conducted in 1907 (TRA 1907a; TRA 1907b), the inhabitants of Cheriya Kadamakudy and East Manjanakkad were engaged in monocropping practices on low-lying lands on both islands. However, the distinctive climatic and coastal conditions of Kochi (see Section 6.2 for Kochi's climatic features) and shortage of labour (please see section 7.4.3 for abandonment of rice cultivation) have resulted in a significant shift in the agricultural practices of the islanders. In the study conducted in Kerala (Ananthakrishnan and Soman 1988), it was recorded that there were severe monsoon rains in Kerala from the 1910s to the 1930s. Heavy rains lasting 30 days or more were observed in 1916, 1920, 1922 and 1927, respectively. Additionally, there was the devastating flood of 1924, which affected Kochi very seriously and lasted for about three weeks in this period.

It is clear that this transformation in islanders' means of agriculture is due to destructive monsoon seasons that were more intense than the typical monsoon season, which occurs approximately every 5-10 years, and the 'Great Flood of 99', which occurred in 1924 as seen in Figure 9.3.

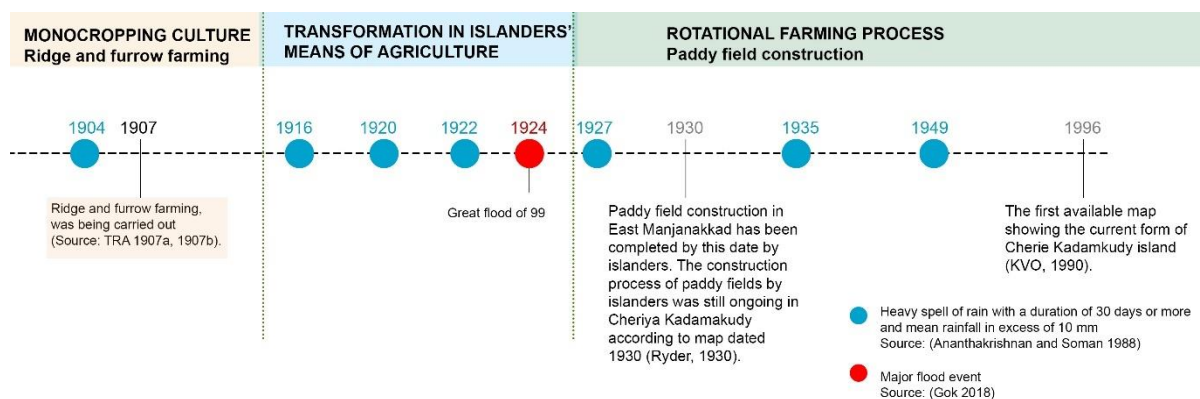


Figure 9. 3: Transformation in islanders' means of agriculture due to natural factors.

Another important factor in the end of monoculture on the island is land erosion caused by saline water through tidal flows on the islands. Like many coastal areas around the Indian Ocean, the backwaters of Kochi experience two high tides and two low tides each day due to the gravitational forces of the earth-moon-sun system (see Section 6.2.2 for the tidal range of Kochi). The islands' resident lands and this strip farming area were exposed to saline water twice a day. Islanders earned their living from either rice farming in the waters around the island, or fishing, without this being in a fixed area.

9.3.1 Impact of monsoon rains, floods, tidal flows on islanders' farming practices

The survey conducted in 1930 (Ryder 1930) shows that monocropping culture was replaced by paddy fields that allowed rotational farming in East Manjanakkad until 1930. Islanders living on Cheriya Kadamakudy were still expanding their agricultural lands towards the sea with the intention of engaging in rotational farming at this time (see Figure 7.26 in Section 7.5.4 for the archival map for islands). Natural disasters, monsoon rains and saline water facilitated the transition from monocropping farming to a rotational farming system on the islands as discussed in the previous section. Namely, the original ridge and furrow system was substituted by the pond farming system about a century ago, to allow for rotational farming.

This is a local farming practice passed on from generation to generation and islanders have developed a routine where, they make their living from fishing for six months (November to April), which is followed by growing Pokkali rice from May to October. The Pokkali's cultivation period from May to October is the monsoon period, when the water salinity is lowest, whereas November to April (dry period) when the water salinity is highest in Kerala become suitable for prawn farming (Figure 9.4).

The rice farming process begins around April, by strengthening the bunds by plastering them with soil and repairing the sluices to retain the water for rice farming. In May, during the driest period with low water level in the backwater, the salt water inside the field is drained out, the fields are left to be dried, and the construction of soil mounds. The monsoon rains in June dissolve the salt in the mounds, making the land ready for rice cultivation with the required salinity level. The rice seeds are sprouted in coconut baskets away from the field before they are planted on the mounts in June. Once the seedlings have grown enough, they spread over the whole field by separating them into smaller seedlings. During this time, the field's water height rises to one metre. By October, Pokkali matures, rising 20-30 cm above the water level, allowing them to be harvested before the time the salinity of water increases (see Figure 9.4).

Following the Pokkali harvest, Prawn filtration starts in November, by allowing the saline water from backwaters through the sluice during tidal flow. Sluice gates are closed after the prawn larvae and fish enter the pond. Until April, prawns and fish are expected to mature.

The harvest time of prawns happens several times between December and March. This cycle continues every year based on the Malayalam calendar.

After that, they developed a rotational farming system and sustained themselves by blending Pokkali rice farming (a unique rice variety cultivated in water-logged coastal regions of Kerala), and fish farming involving all members of the family, sharing the labour. Thus traditionally, they were financially independent and self-sustaining with limited interactions with outsiders and the mainland other than trading of produce. They did not need to go out of the island except to buy a few basic needs such as salt, sugar, and kerosene from the public distribution shops known as *ration shops* on the mainland.

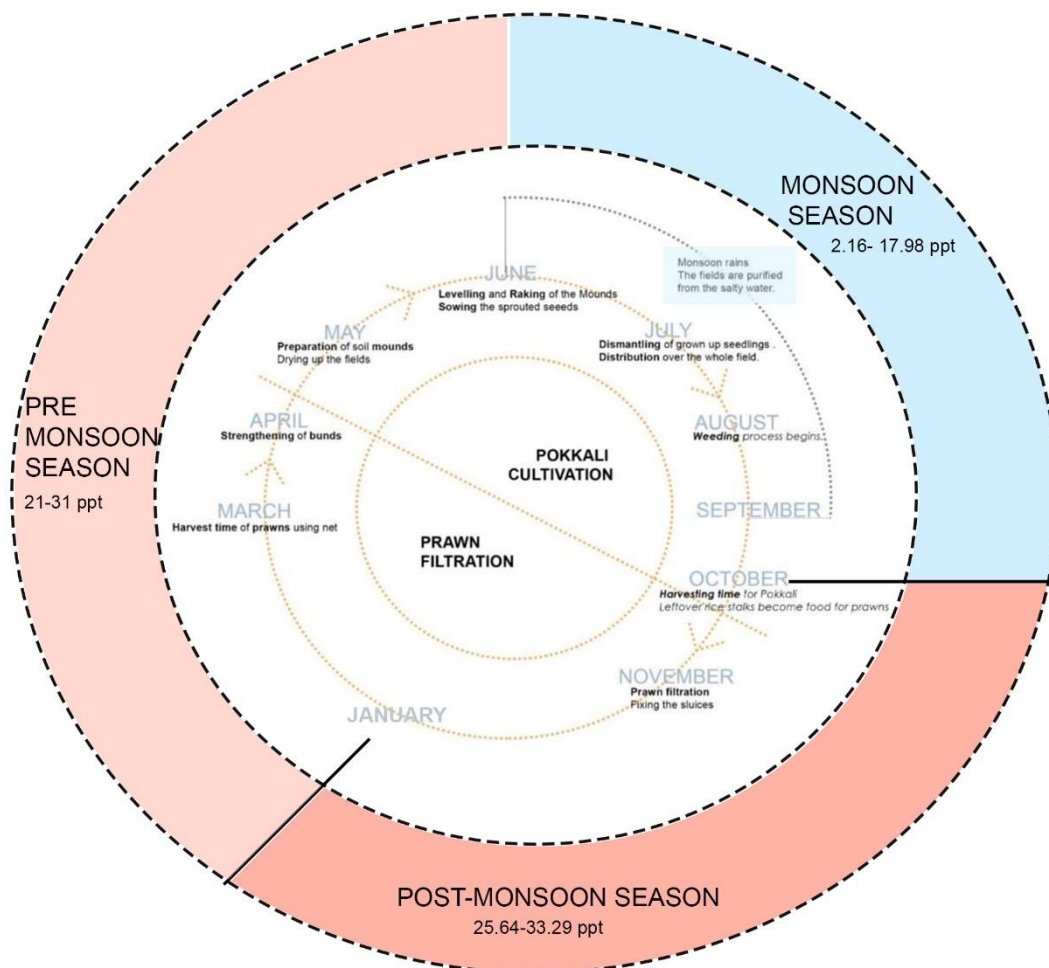


Figure 9. 4: Diagram showing the stages of rotational Prawn-Pokkali cultivation*

*This rotational cultivation process was compiled after interviews with the islanders and the diagram was produced through the narratives of the islanders by the author (see Section 6.2.3 for salinity levels in the diagram).

The salinity level in Pokkali fields decreases until the end of the monsoon season and increases again post and pre-monsoon seasons. Taking these fluctuations into account, the farmers in Cheriya Kadamakudy and East Manjanakkad Islands divided the year into two periods: one dedicated to rice cultivation in the low salinity period, and one to fishing when the water salinity is high in Kochi. This schedule mirrors changes in the water salinity level so that farmers can get the maximum benefit from their activities. High salinity limits the growth and productivity of crops, including rice, and reduces yields. Nonetheless, Pokkali, the oldest rice variety with a history of about 3000 years in Kerala can easily grow in Kochi's low salinity period, where a traditional paddy cannot grow.

Additionally, paddy fields and their components help manage water ingress (see Section 10.4.3 for a detailed analysis of these components) and thus prevent periods of high salinity from negatively affecting the rice cultivation while providing the opportunity for another crop (prawns) to grow at higher salinity levels after the rice is harvested. In conclusion, the occurrence of these floods on the coast of Kochi (see table 6.2 for flood events in Kochi), the heavy rains during the monsoon period (see Figure 6.2), and the seasonal sudden increase in the salinity level of the water (see Section 6.2.3) have caused the islanders to abandon the monocropping agricultural approach they previously employed and develop a new agricultural practice.

9.4 Conclusion

This chapter examined the influence of natural factors on the everyday life practices of islanders under two sub-headings: family life and work life. Natural factors have had a variety of effects on the daily lives of the islanders, but the landform of the island has had the most significant impact on family life. The results from spatial and thematic analysis revealed that the linear form of the two islands has a significant impact on the kinship relations of the islanders. An increase was observed in the number of buildings per parcel between 1950 and 2020 due to the limited area of both islands. Thus, the landform facilitated the formation of a community that originated from a common ancestral lineage, inhabited the same parcel and shared the same garden within the islands.

Furthermore, islands' linear landforms extending parallel to the river have been effective in the orientation of houses being parallel to the river and subsequently forming focal areas within these areas. The landform of Cheriya Kadamakudy, comprising a single land, encompasses focal areas in the middle containing religious structures. This effectively created a public space in the middle of the island where all the islanders performed their religious rituals and celebrated festivals. Differently, on East Manjanakkad Island, the landform comprising four lands resulted in the formation of three focal areas containing three religious buildings. This facilitated the passage ceremony between these centres as part of their religious rituals.

Further investigation revealed that the climate influenced the islanders to develop their own design and construction methods. In particular, the position of the sun caused the islanders' houses to be positioned on the east-west axis, with entrances from the east side. This also influenced the positioning of the verandas on this side. This has caused the islanders to carry out their daily activities in the places they built according to the amount of sunlight.

Natural factors have had varied effects on the work lives of the islanders; the most important impact being on residents' livelihoods. Findings from the thematic, spatial and documentary analysis indicated that monocropping-based agricultural activities on these islands were threatened by unpredictable monsoons, climate-induced rise in water, salinity and hazards such as land erosion and floods. In response to this, the islanders developed climate-resilient agricultural practices in the form of a rotational farming system, which has reduced their vulnerability to climate and natural hazards. The monsoon rains, tidal flows and salinity have resulted in the division of agricultural activities on the island into two main periods: pokkali cultivation and prawn filtration. While monsoon rains and water salinity have a seasonal effect on agricultural activities, tidal flows have both seasonal and daily effects on agricultural activities. While pokkali cultivation is conducted during periods of low salinity and high monsoon rainfall between May and October, prawn filtration is undertaken during periods of high salinity and low rainfall between November and April. Tidal flow enables the islanders to drain the agricultural area twice a day and regulate the salinity of the water within the area.

In conclusion, the research indicates that the island's landform has the greatest impact on islanders' family life, while the monsoon rains have the greatest impact on work life, due to their significant impact on the salinity of the water and tidal flows.

CHAPTER 10

CHAPTER 10: IMPACT OF ISLANDERS' EVERYDAY LIFE PRACTICES ON THE PRODUCTION OF SPACES

10.1 Introduction

This chapter analyses the relationship between everyday life practices and the production of space after analysing how natural factors affect the landforms of islands (Chapter 8) and islanders' everyday lives (Chapter 9). It finally answers the leading research question:

- What is the nature of the symbiotic relationship between everyday life practices and spaces and settlement patterns in the organically and naturally formed land of the islands?

This chapter discusses the production of space at three different scales (settlement, building, and building components) in two different areas (residential, and agricultural areas).

10.2 The production of space through everyday life practices within Cheriya Kadamakudy Island and East Manjanakkad Island

Everyday life practices on the islands are characterized by a dynamic and fluid daily routine (see Section 7.3), which adapts to climate requirements, natural factors (see Chapter 9) and the needs of islanders, thus shaping the islands' landforms and spatial patterns. As outlined in the research framework, the spaces produced as a result of islanders' everyday life practices, which are under the influence of natural factors are examined by looking at two main areas where these practices are embodied, specifically residential and agricultural areas.

The islanders, who initially settled on the islands as land workers and subsequently became landowners after the implementation of land reform, are the primary actors in the production of spaces. Emphasising the land tenure of the islanders, this research refers to these islands as informal settlements rather than as slums or squatter areas.

The term "informal settlement" is more appropriate for describing these islands, which have been shaped by islanders according to their needs, whatever their everyday lives require, as in the selected islands.

The settlement pattern of islands is formed under the influence of islanders' culture, everyday life, and the ancient knowledge transferred through generations instead of following a set of rules as commonly happens in the formal city design process. Since historically and morphologically, the land where the current residential area is located first appeared on both islands, this is the first to be analysed. The following section employs a comparative lens to analyse the production of residential land resulting from the islanders' everyday lives in Cheriya Kadamakudy and East Manjanakkad Islands at three different scales: settlement, building, and building components.

10.3 Residential area as 'lived spaces'

10.3.1 Settlement pattern of the residential area

From the moment the islanders first set foot on the islands, their family structure, religious structures, traditional knowledge systems for building and belief systems have been among the most influential factors in determining the emerging spatial arrangement of the islands. As in the informal settlement formation process, which is self-organised and organic, the islands' settlement pattern begins with the construction of buildings, followed by the shaping of streets. In the two case study islands, the well-established families initiate this process by building their houses first. Subsequently, certain communal areas that were suitable for the cultural and religious beliefs of the islanders were established, and then roads were constructed to connect the houses and these areas to each other.

10.3.1.1 Kinship practices' effect on land use and building density

In the islands, it is possible to track kinship relations by examining the house (plot) names. In these islands, when a male family member marries, if there is sufficient space in the ancestral house, one room of the house is reserved for him or he builds a new

house. In case a new house is being built, members of the same family often retain the same name and they give it to their new home. In other words, the reason for the presence of multiple houses with the same name on the island is that male individuals leave the main house (ancestral house) due to marriage and build their own homes nearby. Consequently, the mapping of the names of the houses on the islands during the fieldwork in Kochi permitted the determination of the locations and number of houses with the same name on the islands and the inference of the number of families of different ancestry that lived there (Figure. 10.1).



Figure 10.1: House names (left: Cheriya Kadamakudy, right: East Manjanakkad island).

The construction of houses on the islands is a deeply rooted practice, with a history that extends back countless generations. As the islanders stated, the first shelters were first constructed on the islands by their ancestors. Although these original shelters met the seasonal needs of the islanders, they were not durable and did not survive to the present day due to their materials and structures not being resistant to weathering factors such as monsoon rains and wind. Annapurna (farmer, EMI) pointed out the existence of

shelters constructed from coconut leaves and mud prior to the construction of the first proper ancestral houses on the island, saying, *“Our grandfathers all lived here. The houses were thatched ones in those times. Only the floor was there. Everything else was made of mud and leaves. All were thatched houses.”*

In both islands, the original shelters were smaller, and all members of the same family resided together in one of these shelters. Subsequently, the larger ancestral homes that still exist were constructed in the same location as the original shelters. The construction of these larger residences was driven by the expansion of the family unit, while the need for protection against the effects of the climate led to an increase in their durability. Varun (islander, CKI) emphasised the importance of the ancestral home on the island with the following sentences: *“In Malayalam, we called 'tharavadu (ancestral home)'. The place, home... All family members had been living there at that time before the partitioning happened. That is the main house. For every function, they gathered there.”*

Building upon the above considerations, an analysis of the settlement pattern on the islands was carried out by examining the distribution of houses belonging to the same family lineage, as explained in what follows.

Cheriya Kadamakudy Island

No evidence of the original shelters was found on Cheriya Kadamakudy Island. The oldest houses on the island are those belonging to the three most established families: Pashniparambil, Karakkasheri and Edakatuparambil (Figure 10.2). The oldest houses belonging to the first two families were constructed between the 1950s and 1960s, whereas the oldest house of the third family was built between the 1970s and 1980s. These houses were constructed at a considerable distance from each other. There is one house which belongs to the Karakkasheri family in the North of the island and two houses belonging to the Pashniparambil family in the South, all of which were built between the years 1950 and 1960. Between the 1960s and 1970s, the number of houses belonging to the Pashniparambil family increased in the South of the island.

Since the 1970s, the island began to host new families. The oldest house built at this point that has survived to the present day belongs to the Edakatuparambil family in

1980. From this date onwards, houses built by members of this family were located near the centre of the island. Since the 1990s, there has been an increase in the number of houses built. Between the 2000s and 2020s, the number of houses on the island belonging to existing families increased due to newly married family members building new homes for themselves. In addition to this, in the last four years, the construction of the bridge in 2019 by the Navy played an important role in the increase in the number of houses on Cheriya Kadamakudy Island, as it allowed the islanders to transport construction materials (albeit up to a certain weight) to the island by road. At the time of fieldwork (May 2022), there were five houses under construction.

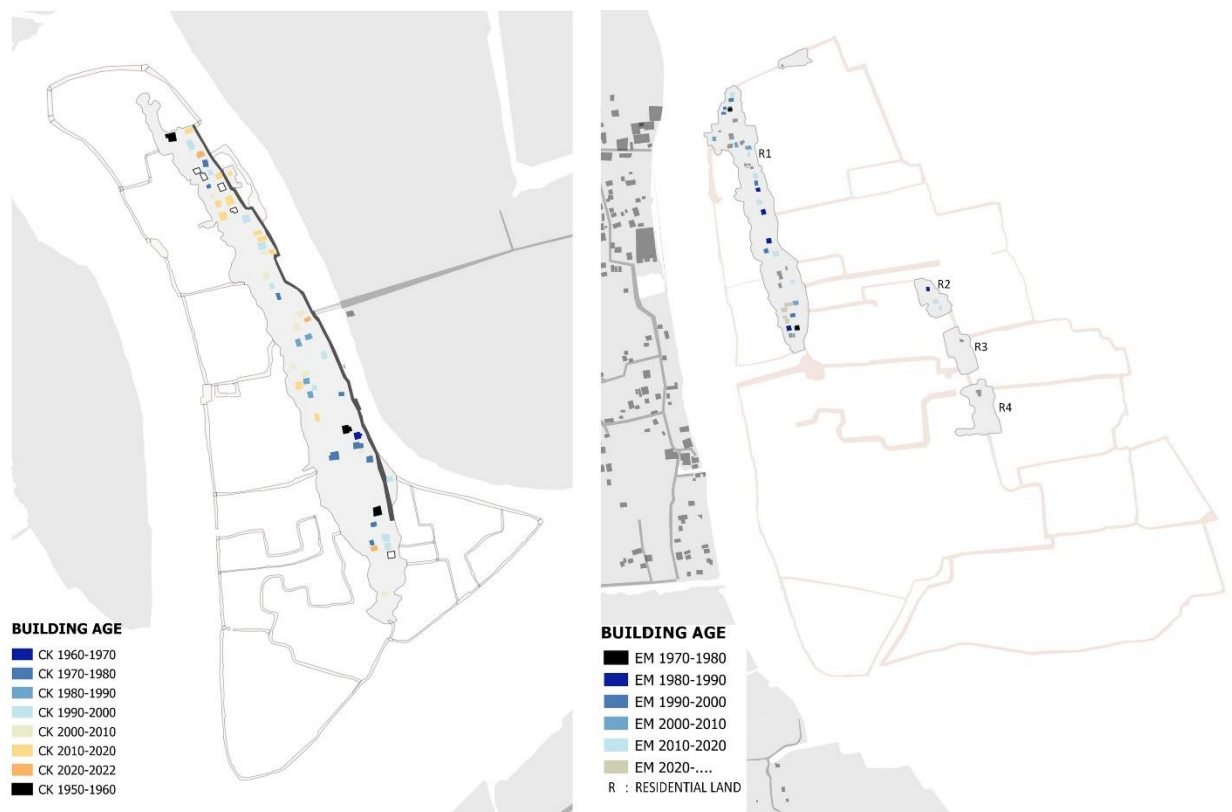


Figure 10.2 : Building age maps of Cheriya Kadamakudy (left) and East Manjanakkad (right).

East Manjanakkad Island

In a similar manner to the other island, the initial construction of houses on East Manjanakkad Island was carried out in a scattered manner, with the first structures being constructed on two opposite sides of the island (north and south). The Marangattuthara and Thundiparambil families constructed their residences for 10 years,

between 1970 and 1980. The Marangattuthara family constructed their house in the northern region of the island, while the Thundiparambil family constructed theirs in the southern region of the island. Before this period, as in Cheriya Kadamakudy, only the original small shelters were present but these shelters have not survived to the present day as islanders stated. From the 1980s onwards, new houses were constructed on the island by incoming families.

Over the following ten-year period, both the Marangattuthara and Thundiparambil families began building new houses in the immediate vicinity of their first house. However, some members of the Marangattuthara family opted to move to the second residential land. The density of the residential settlement increased in the North of the island between 1990 and 2000. A decade later, between 2000 and 2010, the Marangattuthara and Thundiparambil families continued to construct new houses in their respective areas (north and south), following a similar pattern. Subsequently, over the subsequent ten-year period, a number of different families constructed new houses in the central area of the residential land. As of 2020, there has been an increase in the number of houses built by the Thundiparambil family in the south of the island. At the time of fieldwork (May 2022), two houses were under construction: one in the south and one in the north of the island (Figure. 10.2).

This research found that the marriage of islanders has affected the residential clustering of the islands. The islanders' selection of location for new houses to be built on parcels belonging to their families and their adoption of a lifestyle in close proximity to their extended families have been the most significant factors influencing this clustering. Thus, these clusters formed a settlement consisting of several neighbourhoods on the island, in which family members from the same lineage resided.

10.3.1.2 Belief systems' effect on land use and spatial layout

Belief systems are an important part of the everyday practices of the islanders and have influenced the land use and settlement patterns of the islands. In East Manjanakkad Island, Hinduism, which is the predominant religion among the islanders, creates a sense of religious unity among the islanders and, perhaps more importantly, influences the

spatial texture of the island, which evolves around its principles. In particular, Hinduism requires places of worship to be visited by islanders. This requirement can drive the construction of certain areas and influence the built density of settlements. In East Manjanakkad Island, two temples and a Sarpa Kavu (sacred grove) have indeed played a significant role in shaping the spatial texture of the settlement.

Both temples are located parallel to the main road for easy access and have their own area enclosed by garden walls for a number of festivals including Onam, Puja, Pongal and temple festivals. One temple (called Kalari - Elavungathara Bagavathy Temple) is located near the entrance of the island, while the other is located in the central region of the island and is comparatively smaller than the first. The Sarpa Kavu, on the other hand, is located at the furthest point from the mainland, in the more forested and uninhabited part of the island.

The religious procession commences in the residential area where the temples are situated and continues along the main road of the island. Subsequently, the procession proceeds to the second residential area of the island, which is characterised by a relatively low level of construction, via the paddy field road. It then reaches the forest where the sacred grove is located, once more via paddy fields (see Figure. 10.3, right).

On the Cheriya Kadamakudy island, the coexistence of Hindus and Christians has resulted in two distinct areas on the island. The first is the area where the Hindus live in the grove that is in the immediate vicinity of the temple, and the second is the area where the Christians live, with the church in the centre and spread all over the island (see Figure. 10.3, left).

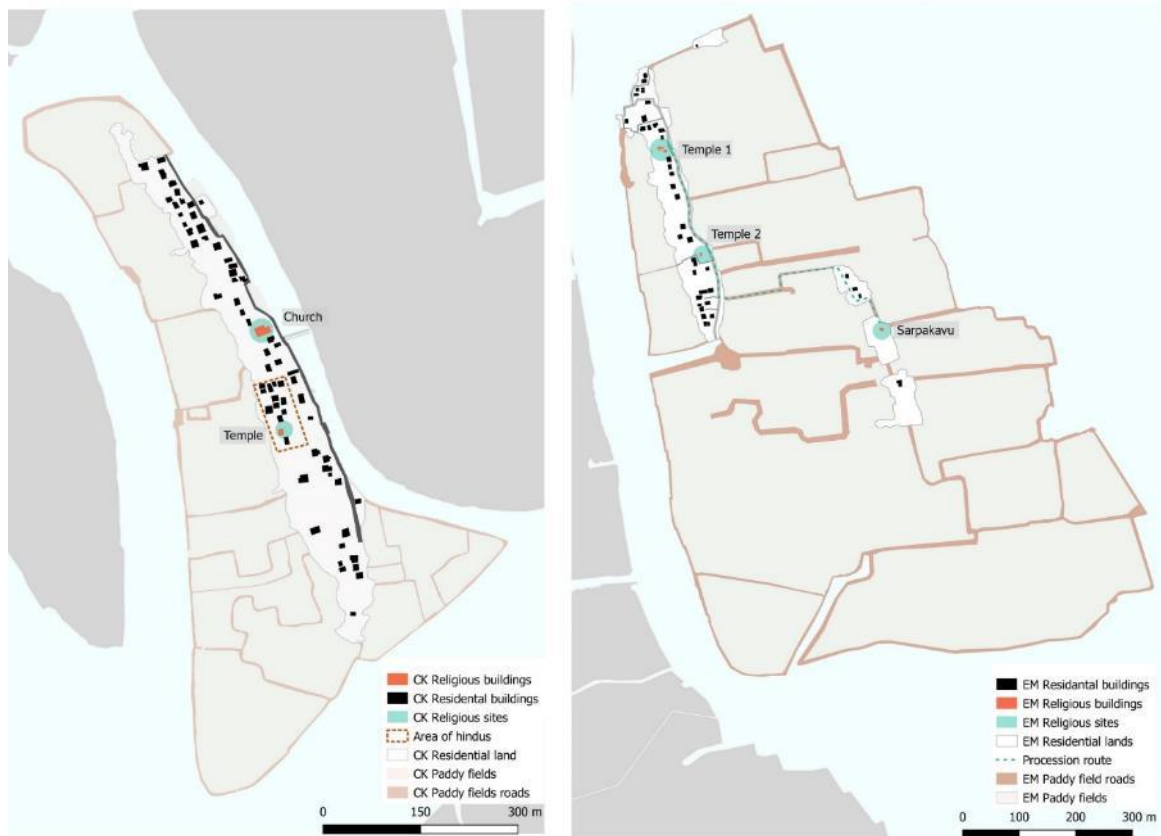


Figure 10.3: Building type maps of Cheriya Kadamakudy (left) and East Manjanakkad (right).

10.3.1.3 Impact of traditional knowledge system for building and on the road system

Another important factor influencing the morphology of these places is the islanders' traditional knowledge system for building (please see section 6.4 for a detailed discussion). Awareness of this knowledge system is solid in both East Manjanakkad and Cheriya Kadamakudy Islands, where the islanders built their houses using traditional construction methods, following this ancient body of knowledge in the design and construction process. Within this knowledge system, building orientation appears to be the most critical element affecting the islands' settlement pattern. Indeed, in both islands, the main road was shaped by buildings' orientation to give access to each property. This choice aligns with this knowledge system's principles which indicate that the entrance should face East for beneficial energies to penetrate into a house. Additionally, building orientation is used as a passive design strategy by islanders to guarantee higher thermal comfort, considering the amount of sun falling on the

buildings' surface and the prevailing wind directions. Therefore, islanders' preference for parcels with the road on the east side of the plot is also related to the optimisation of lighting and heating that result from orientating buildings in this direction (see Figure 10.4 and 10.5). In both islands, the construction of houses was followed by the construction of roads, in a manner similar to that observed in informal settlements. As the number of houses increased over time, secondary roads (alleys) were subsequently built. Concurrently, as agricultural lands, specifically paddy fields, were developed, they were connected to residential lands with bunds.

The primary thoroughfare subsequently gave rise to a network of secondary routes, including those dedicated to agricultural transportation, facilitating the connectivity between the main road and the surrounding agricultural lands. These three types of roads contribute to the formation of urban space on both islands through the provision of varying degrees of publicity and privacy (see Figure 10.4 and 10.5).

1. Main road: The relationship and road system between the agricultural and residential areas on both islands are similar. The majority of residences, public areas (e.g., churches and temples) and the mainland are accessible via this road. In addition to its role as a transportation artery, this road also functions as an urban space. It functions as a site that facilitates unplanned interactions. The islanders engage in routine communication and greetings along this road.

2. Alleys: These secondary roads provide access to houses situated at a distance from the main road and positioned towards the periphery of the island. These areas exhibit a semi-public character. They are popular gathering places for children from the surrounding houses, who play there, and for women, who sit and chat.

3. Bunds (Paddy field road): The Bunds are roads that provide access to agricultural lands. They are used by farmers, who also use them to reach their fishing huts and sluice gates. At certain stages of agricultural activities (please see section 9.3 for these activities), the bunds also turn into work areas where families divide the work.

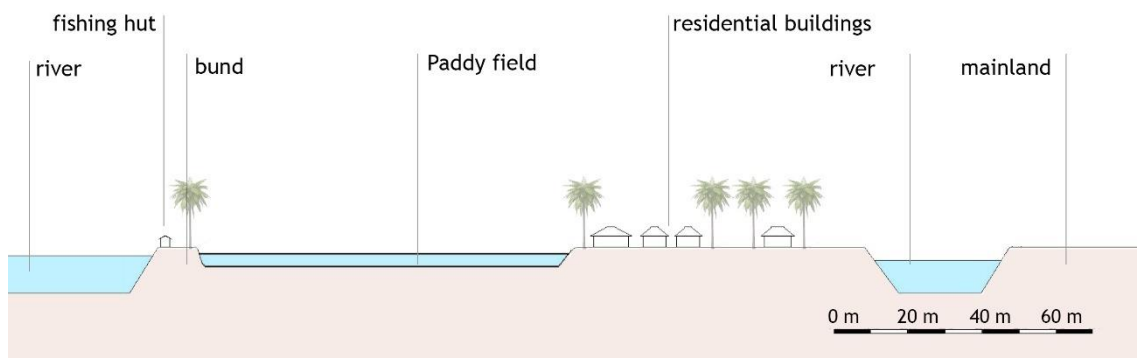
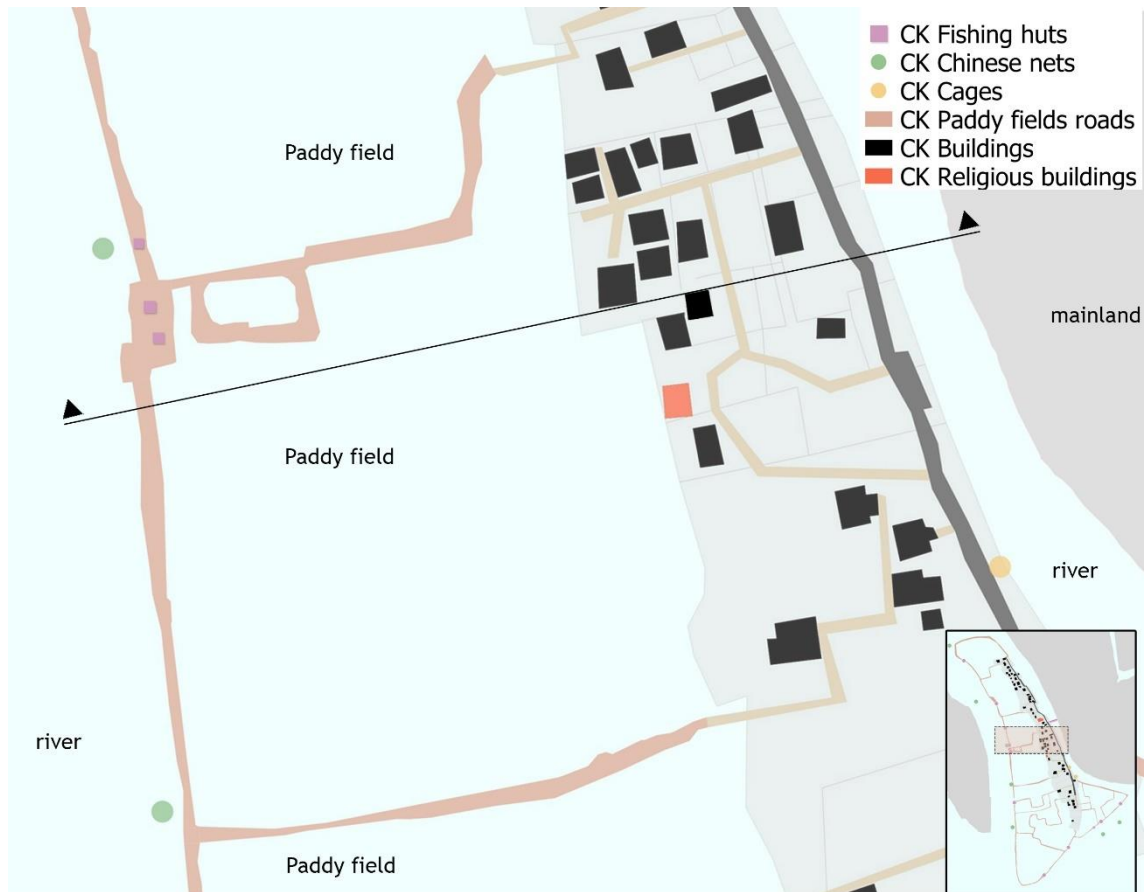


Figure 10.4: Buildings and road in the reclaimed area of Cheriya Kadamakudy Island.

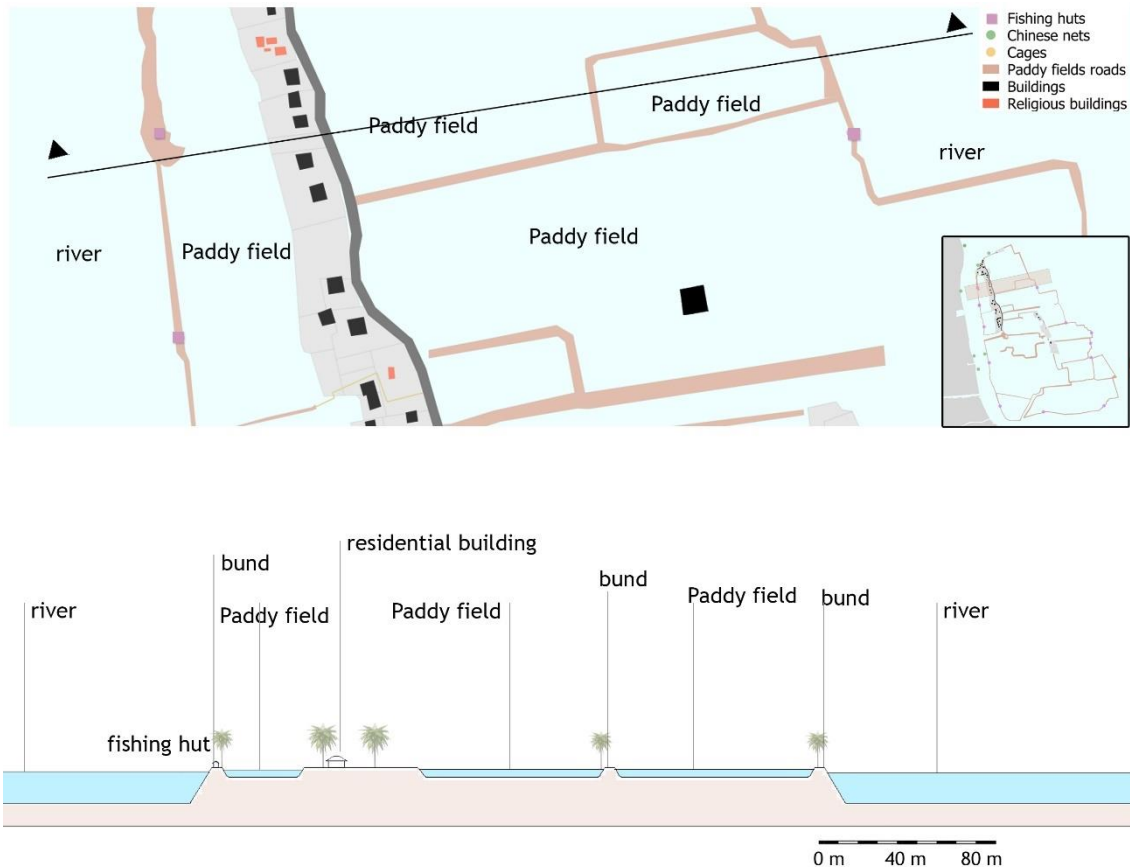


Figure 10.5: Buildings and road in the reclaimed area of East Manjanakkad Island.

10.3.1.4 Impact of everyday life practices on urban spaces

Islanders living in warm climates often engage in various outdoor spaces. The warm and humid climate of Kochi not only encourages islanders to participate in outdoor activities frequently but also necessitates spatial precautions due to heavy rains during the monsoon period. Thus, islanders have shaped their open and semi-open spaces according to their everyday lives and climate conditions, with gardens and verandas standing out as important examples of such spaces.

The gardens surrounding the houses are important urban spaces where islanders come together for certain functions, distinct from the public space defined by religious buildings on the islands. However, the level of publicity created by these home gardens varies depending on their type. The residential properties on both islands are characterised by the presence of three distinct types of gardens. The first is located at

the front of the property, the second at the back, and in some instances, a shared garden is situated between the buildings.

- Front gardens, facing the main roads of the islands, define a more public space. Islanders gather in these front gardens for specific events such as weddings and birthdays. They are often adorned with landscaping elements for aesthetic purposes (see Figure 10.6).



Figure 10.6: View from the front garden of the house in East Manjanakkad Island.

- Back gardens, accessible from all kitchens inside and outside the house, define a more private space due to their location and user profile. This invariable spatial arrangement stems from the strong connection between cooking works and open spaces. Due to islanders' habit of cooking over an open fire, the back garden is often used to boil rice and cook fish they caught and other meals. Most household chores are carried out in this area, including the drying of laundry, some meal preparations, and poultry farming, if applicable. Furthermore, in the time when Pokkali cultivation was done, islanders used the back garden to

spread the grains after laying a thin waterproof mat, allowing the rice grains to dry under the sun. Furthermore, all residential properties feature a garden area to the rear (see Figure 10.7).



Figure 10.7: View from the back garden of the house in East Manjanakkad Island.

- Some plots on both islands feature shared gardens situated approximately in the middle of the plots, shared by relatives living in the same parcel. These gardens are used for cooking and preparing meals, with an outdoor kitchen located inside. They also serve as a meeting place for relatives. These gardens have a semi-public character (see Figure 10.8).



Figure 10.8: View from the shared garden of the house in East Manjanakkad Island.

In Cheriya Kadamakudy and East Manjanakkad Islands, all residential are provided with a front garden front garden. They have a defined area surrounded by physical boundaries such as fence and garden wall. Back gardens are slightly more isolated areas that the female islanders actively use. Additionally, there are shared gardens within the same parcel type that are utilized by relatives on both islands. These gardens serve as venues for a variety of gatherings, celebrations, and birthday parties throughout the year. (see Figure 10.9).

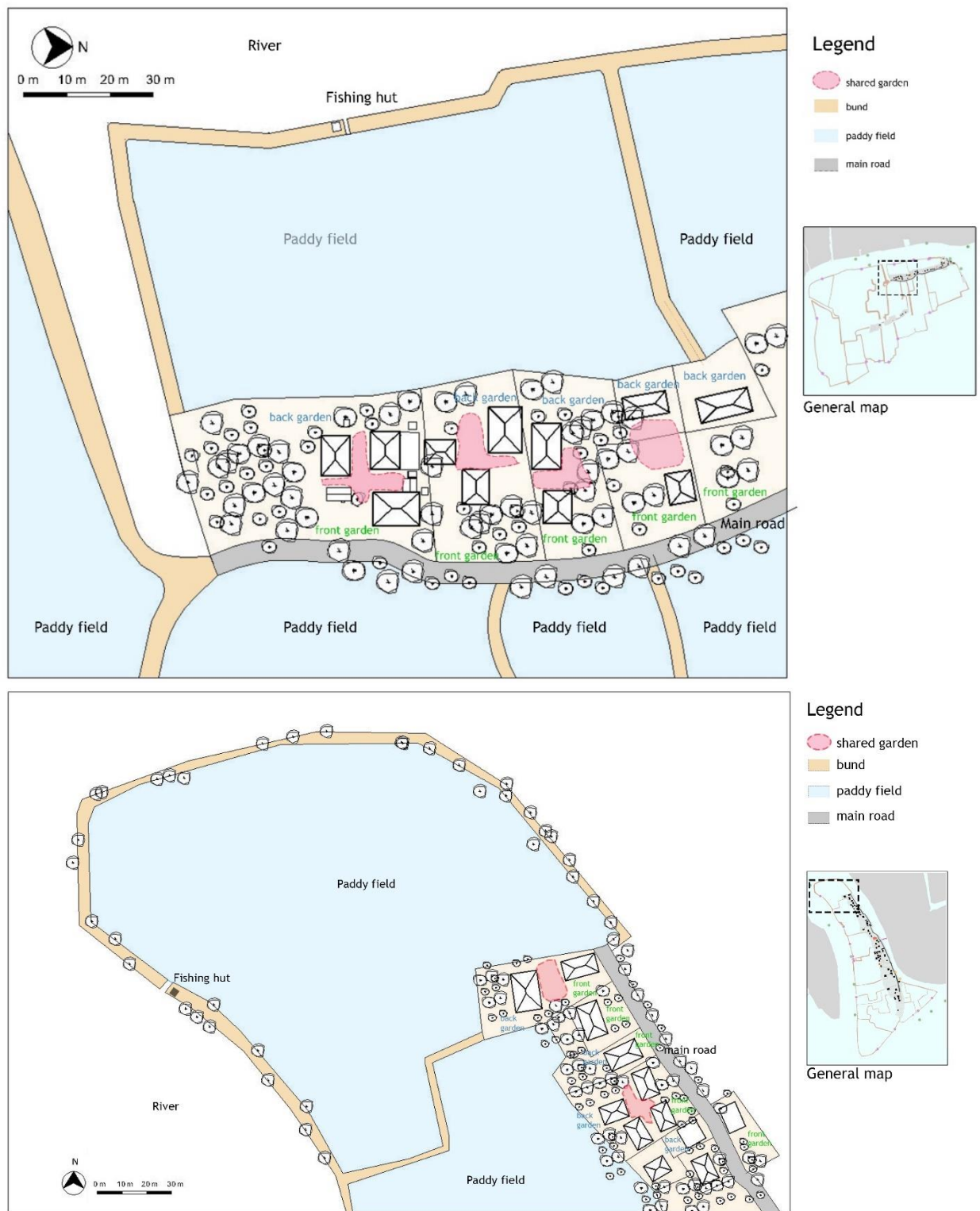


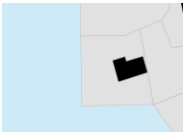
Figure 10.9: Different garden typologies of East Manjanakkad (above) and Cheiya Kadamakudy Islands (below).

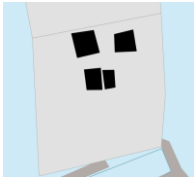
10.3.2 Design of houses

10.3.2.1 Impact of family structure on the layout of the residential plots

The family structure of the islands, as discussed in Section 7.3, has influenced the layout of housing plots. The layout of plots varies depending on whether the islanders live as an extended family in an ancestral home or whether a married male islander constructs a new house for their nuclear family in close proximity to an ancestral home. The effects of the family's social structure are clearly seen in the planning of the residential parcel's layouts. The most critical factor in shaping the house plan is the number of family members and the size of the plot. This research has identified two main types of plot layout in residential areas as a result of family structures of islanders, namely: (1) one large ancestral home housing multi-generations of the family and (2) a cluster of small houses with a shared garden and kitchen, belonging to the same family (see table 10.1).

Table 10. 1: Typology of plot layouts in CKI and EMI.

			CKI	EMI		
		Plot types	Number of plots	Number of plots	Pattern of plots	Definition
One large ancestral home housing multi-generations of the family	Type1	A plot with one house.	31	14		An extended family living together in a single large ancestral house
	Type2a	A plot with two houses.	4	8		An ancestral house, the house of the married eldest son, shared garden and kitchen.
A cluster of small houses with a shared garden and kitchen, belonging to the same family.	Type2b	A plot with three houses.	1	-		An ancestral house, the houses of two elder married sons, shared garden and kitchen.

Type2c	A plot with four houses	2	1		An ancestral house, the houses of three elder married sons, shared garden and kitchen.
Type2d	A plot with five houses.	2	1		An ancestral house, the houses of four elder married sons, shared garden and kitchen.
	Total plot number	40	24		
	Residential land surface area (m ²)	61,422	38,270		

In the first case, if the ancestral home is large enough, the house hosts the bedrooms of each married male member and his nuclear family and all of these nuclear families live under the same roof as an extended family (Figure 10.10).



Figure 10.10: An example of a single ancestral house built between the 1960s and 60s in Cheriya Kadamakudy Island.

In the second case, if the ancestral house is too small to accommodate the new members of the extended family, the parcel is partitioned to allow the construction of new homes. In this case, after the marriage, the male islander builds his own home on the same parcel and creates a new living space for his family. Families living in the same parcel but under different roofs come together in the garden that connects the houses and kitchen (Figure 10.11).



Figure 10.11: An example of a housing cluster in East Manjanakkad Island.

Three family units live in the plot shown in Figure 10.11. The ancestral home, located at the bottom right of the plot, was the first house built in the 1970s. Reflecting a tradition where young male members of the island family build their own houses after marriage, the house in the other upper right corner was constructed in the 1980s. Then, between 1990 and 2000, this house began to expand towards the North. In the 2010s, another young male member of the family built a temporary accommodation unit for his nuclear family in the bottom left corner of the plot. A few years ago, this family started constructing a permanent house in the upper left corner. Notably, these houses are connected to each other by a garden and kitchen (Figure 10.12).



Figure 10.12: Chronological exploration of housing pattern.

10.3.2.2 Impact of family structure on the layout of the houses

In the design of the islands' buildings, the local social and economic structure, as well as climatic restrictions, are considered comprehensively and holistically. Initially, these constructions emerged as a result of the need for shelter, which was sought for protection from the elements of nature. Since conditions have changed over time, these places have subsequently evolved into spaces that meet necessities beyond basic needs, shaped by factors such as the family's structure, lifestyles, and technological developments. The architectural plans of these houses bear traces of the cultural characteristics of the islanders and act as a mediator between nature and the everyday needs of the islanders.

The plan and size of the houses on the island vary depending on the family structures and the parcel sizes. As previously mentioned in Table 10.1, this research identified two different housing types: (1) One large ancestral home housing multi-generations of the family, (2) A cluster of small houses with a shared garden and kitchen, belonging to the same family.

Type 1: One large ancestral home housing multi-generations of the family

The large ancestral home normally hosts three families and is spatially organised as shown in Figure 10.13. Each family unit that makes up the extended family has its own bedroom. The living room and dining room connect the private living spaces of these family units. The kitchen is positioned in a structure that is independent from the main volume of the house but connected to it through a passageway. This area serves as a communal space where female islanders from the three families come together.

As a matter of fact, kitchen work and other household chores are often shifted from the inside of the house to the garden and back veranda located on the west side. Women usually aim to finish their work by noon because this area is exposed to the sun in the afternoon. Closer to sunset, family members start spending time on the front veranda, taking advantage of its shaded space to engage in evening conversations with other islanders (see figure 10.14).

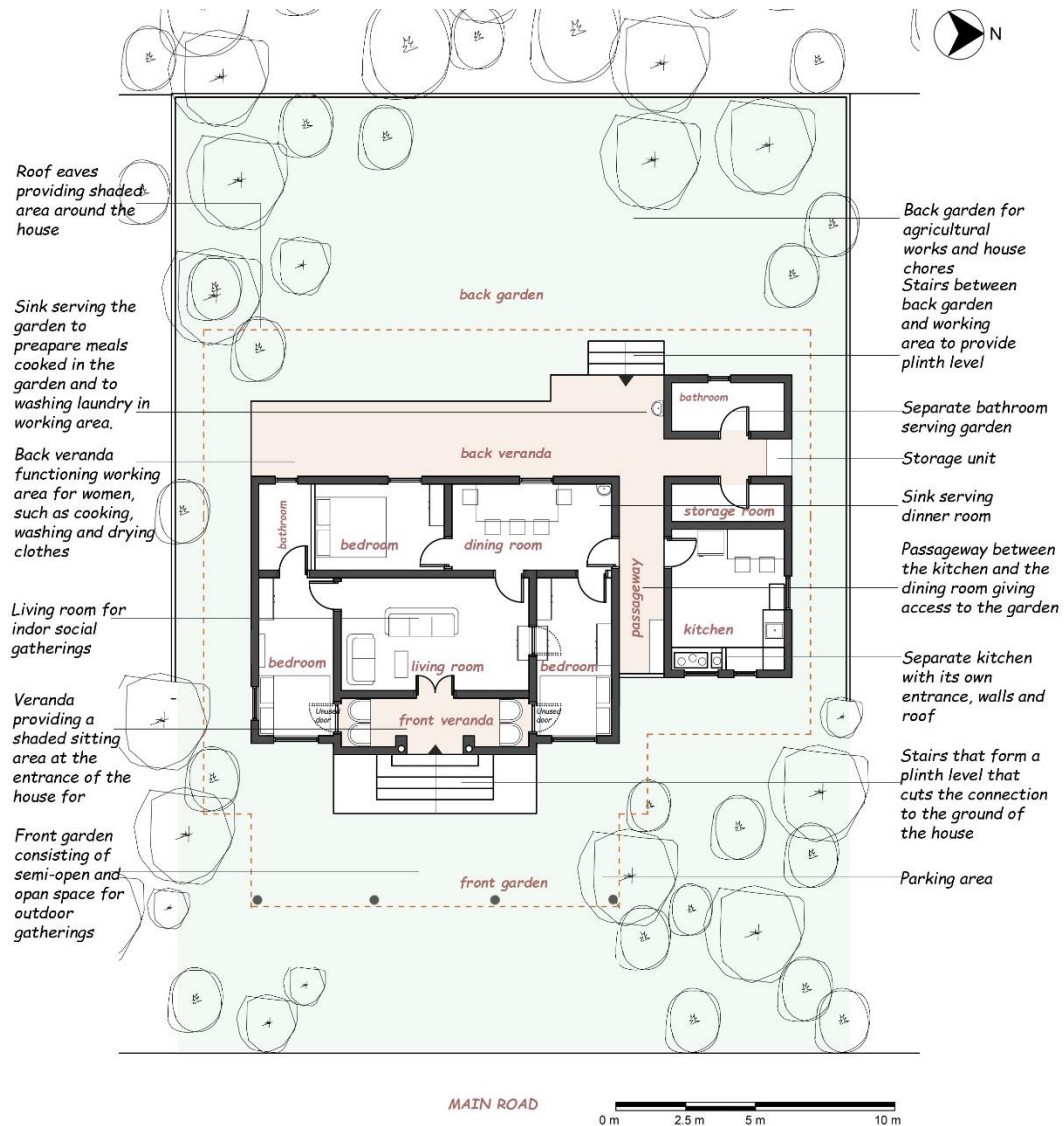


Figure 10.13: Example of type 1 house layout in Cheriya Kadamakudy Island.

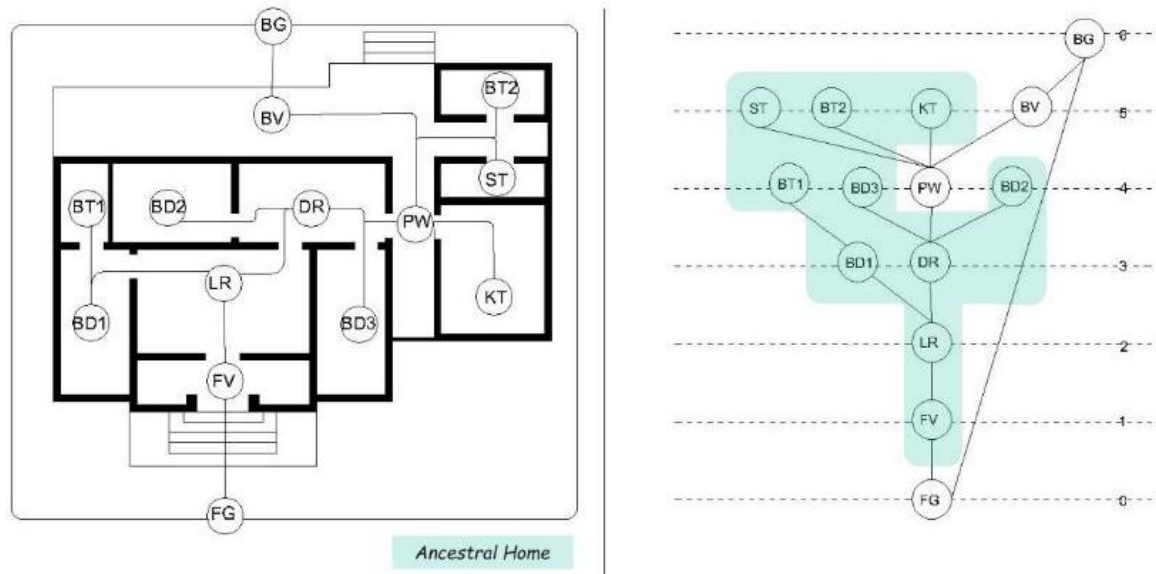


Figure 10.14: Layout of Type 1 house.

Type 2: A cluster of small houses with a shared garden and kitchen, belonging to the same family

The housing cluster hosts multiple family units from the same lineage with a smaller ancestral home and additional housing units scattered around it as shown in Figure 10.15. Unlike the large ancestral home, this spatial layout caters to members of the same extended family who live in different houses rather than under the same roof. In this spatial organization, family members interact in the garden and in the common kitchen, which is situated independently in the garden (see figure 10.16).

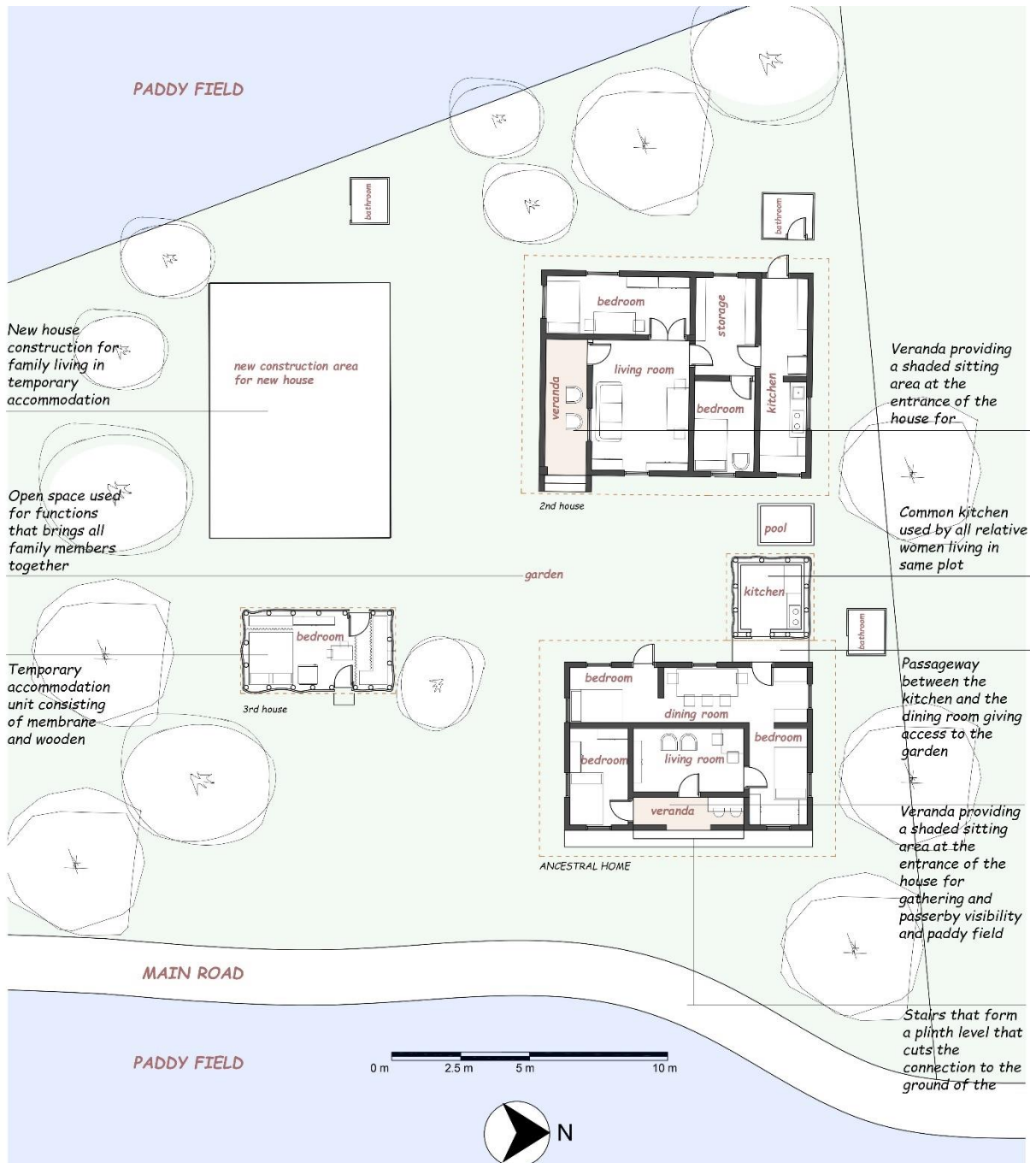


Figure 10.15: Example of type 2 house layout in East Manjanakkad Island.

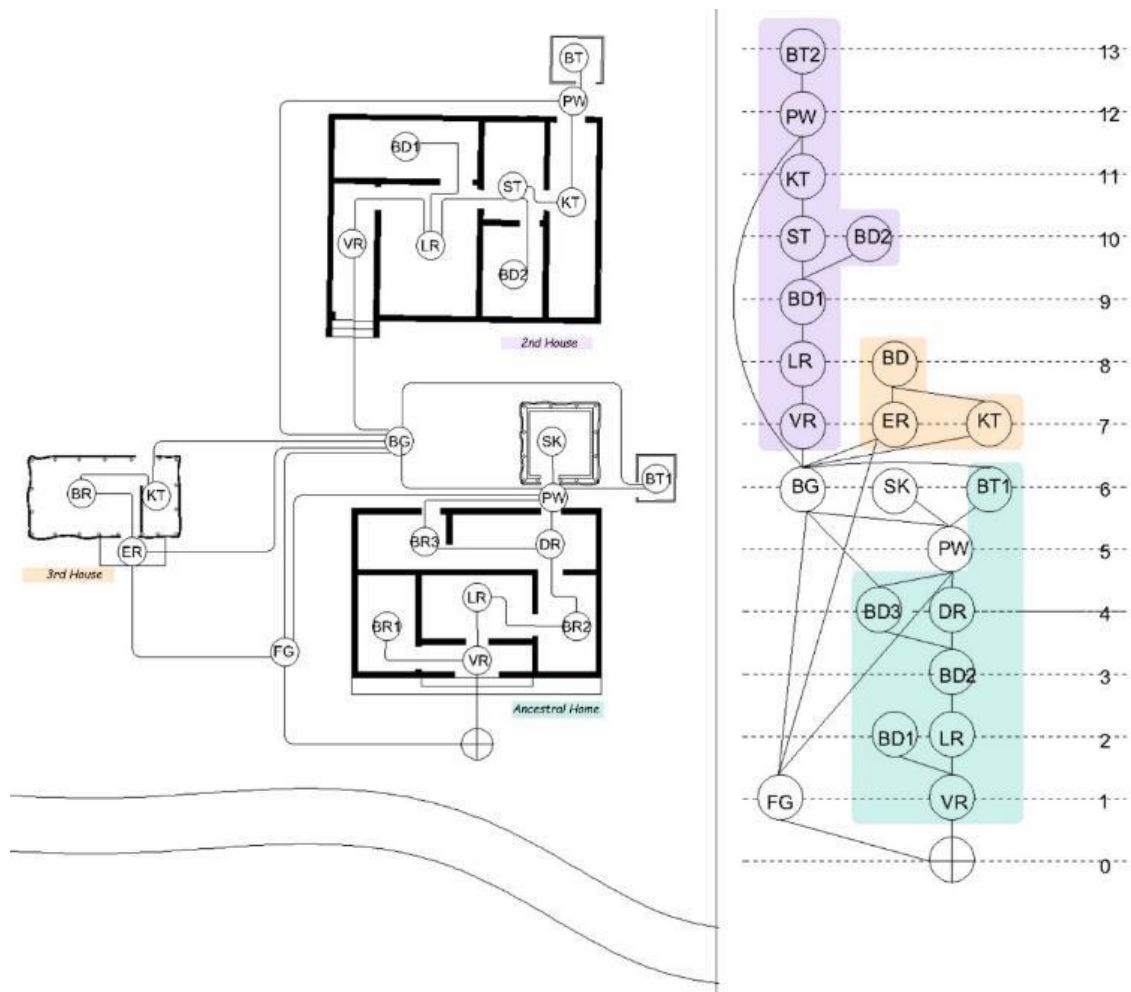


Figure 10.16: Layout of Type 2 house.

Table 10. 2: Room abbreviations used in the J-graphs.

FG	Front Garden	DR	Dining Room
BG	Back Garden	KT	Kitchen
SG	Shared Garden	FV	Front Veranda
VR	Veranda	BV	Back Veranda
LR	Living Room	OB	Outdoor bathroom
BD	Bedroom	SK	Separate kitchen
BT	Bathroom	PW	Passageway
GR	Garden		

Veranda

Most buildings on the islands were fronted by an indented veranda with varying form and orientation. Verandas are semi-open spaces that accommodate the various

functions performed by islanders, including cooking, eating, resting, sleeping, feeding poultry and goats, studying, and storing items. In front verandas, particularly male islanders and children from Cheriya Kadamakudy and East Manjanakkad Islands, interact with each other (see Figure 10.17).

Front verandas present a safe raised platform where children can play throughout the day under the supervision of their parents. From sunrise to sunset, children actively spend time in the verandas with their peers from neighbouring houses. However, adults generally use the veranda in the evenings after finishing their work. After sunset, the veranda turns into a shaded area, becoming an ideal place to relax and unwind. Indeed, in both islands, these verandas are areas where male islanders rest, and often sleep at night through a sitting area connected to the house, to seek relief from the hot weather. Even during the monsoon season, when heavy rains occur, the veranda provides a useful sheltered semi-open space providing comfort from the tropical-monsoon climate. The desire to create a shaded and sheltered area is driven by problems such as intense sunlight, temperature changes, sudden and heavy rainfall, and floods that periodically hit Kochi throughout the year. In this respect, verandas are of great importance in the daily lives of the islanders, both from a social and environmental perspective.



Figure 10.17: Examples of houses with verandas in different forms on EMI (above) and CKI (below).

In both islands, the necessity to have the entrances of the houses on the east side based on their traditional knowledge has led to the positioning of most front verandas on the

east side of the houses. These verandas serve as entry points to the living room and the front-facing bedrooms of the houses (see Figure 10.18).



Figure 10.18: View from inside the verandas with fixed seating elements on the left (source: by author) or chairs on the right (source: by Varuna V.C, 2023).

In addition to the front veranda, some houses feature a stone-paved space covered with a shed metallic roof between the kitchen and the garden, called the back veranda (Figure 10.19). Women use this space to handle household chores and for storage purposes. It has been observed that, on the islands, the back veranda is often used to hang laundry or prepare food for large gatherings. Also, a standalone toilet (not accessible from inside the house) and sink are usually located in this area.



Figure 10.19: Back veranda of the house in CKI, (Varuna V.C, 2023).

In islands, the inclusion of verandas in houses is important also from a climatic standpoint because it provides protected space for islanders according to the direction of sunlight. While front verandas are primarily used in the afternoon by children and male islanders, back verandas are used by female islanders for cooking and working based on the amount of daylight that veranda receives (Figure 10.20-21). They also facilitate the influx of fresh air into buildings and enable cross ventilation with window openings on the opposite side of the houses. As the wind blows, an airflow occurs within each building, allowing fresh air to travel across the interior spaces.



Figure 10.20: Use of the back and front veranda depending on daylight in the islands.

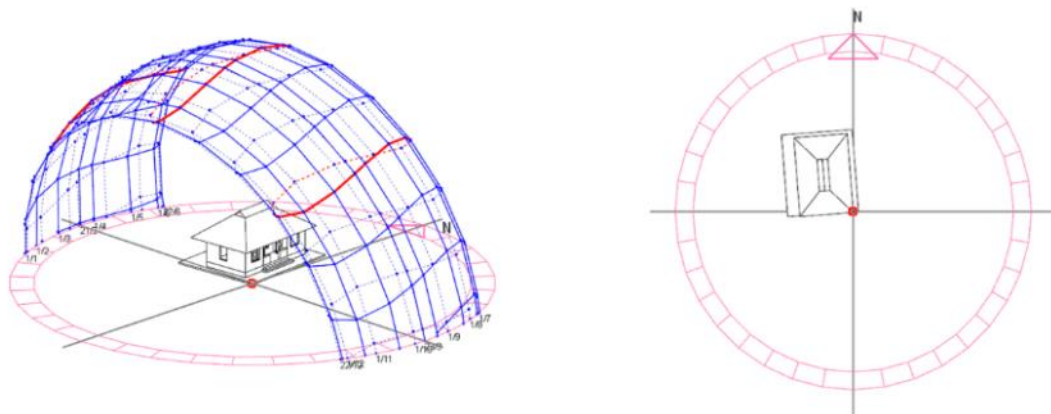


Figure 10.21: Sun-path analysis of house as an example in EMI.

10.3.2.2.1 Indoor Gathering Spaces

Living room and dining room

The living and dining rooms are the crucial indoor spaces of houses where the islanders assemble for all their indoor activities. Their spatial features not only facilitate family gatherings but also enable islanders to socialize both within and outside the family. As the amount of time islanders spend indoors increases, especially during the monsoon season, the frequency of use of these rooms also increases on both islands.

The living room is the most important indoor gathering place for family members, neighbours, and guests, on both islands. Due to its central location allowing access to the bedrooms and dining room, it functions as a transitional space between the private spaces and more public spaces of the house. Likewise, it connects interior spaces and exterior spaces, giving access to the veranda. Notably, the living room is the place where guests are welcomed because it is the first internal room of the house when arriving from outside (Figure 10.22).



Figure 10. 22: Entrance to the living room from the veranda, (source: Varuna V.C, 2023).

Enough space in large houses has led to the separation of the dining room and the living room. Conversely, in smaller homes, the living and dining room activities occur in the same place. In cases where the dining room is distinct, it is typically located between the living room and the kitchen or connects with the outside. This room features a dining table, capable of accommodating a large crowd, along with a corner sink (Figure 10.23).



Figure 10.23: Dining room and its sink in CKI, (source: Varuna V.C, 2023).

10.3.2.2.2 Women's space

On the islands, kitchens are communal spaces where extended family members residing in the same household, as well as relative women living in different houses on the same plot, meet for their daily kitchen tasks. Moreover, kitchens serve as gathering spots for

all the women on the island during some events. Especially during celebrations such as marriages and birthdays, women from the island come together in the host's kitchen and prepare meals together. All these activities affect the time women spend in kitchens. Four different kitchen types have been identified on the islands (Figure 10.24).

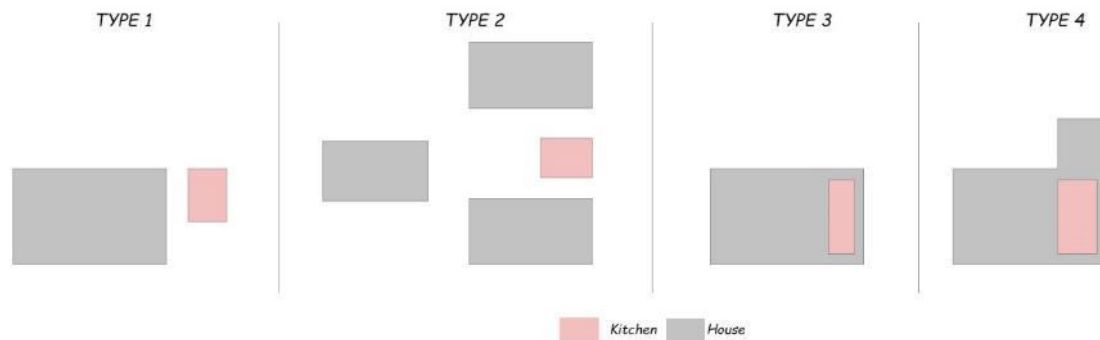


Figure 10.24: Kitchen types identified in islands.

Type 1 (Figure 10.25), which comprises the majority of kitchens on the island, is characterised by a separate construction separated from the rest of the house. This detached kitchen, located in the back garden, is shared by all the women in the family and has its own four walls and roof. Accessible from the house via a narrow outdoor corridor, it is often located close to the dining room. Type 2 (Figure 10.26) is another separate kitchen that is accessed only from the garden and is not connected to the interior of the house. This is shared by all relative women living in the same plot but in different homes.



Figure 10.25: Example of type 1 kitchen in CKI (source: Varuna V.C, 2023).



Figure 10.26: Example of type 2 kitchen in EMI (source: Varuna V.C, 2023).

Type 3 (Figure 10.27) is an indoor kitchen that is generally seen in newly built houses. This kitchen usually presents a linear layout and is located at the back of the house, giving direct access to the garden. Lastly, Type 4 (Figure 10.28) is equally located inside the house but has an extension for storage and some of the cooking processes that may cause the release of heat and smoke. To facilitate ventilation, the extension opens to the garden and is surrounded by wire mesh instead of solid walls.



Figure 10.27: Example of type 3 kitchen in EMI.



Figure 10.28: Example of type 4 kitchen in CKI (source: Varuna V.C, 2023).

Of the four kitchen types on the islands, those built separately (Type 1&2) seem particularly effective at mitigating overheating issues, by providing access to the back garden and leveraging natural ventilation. Their design enables the easy removal of both smoke and unpleasant cooking odours from the interior through the natural ventilation system. Among those built inside the house, those with an extension surrounded by a perforated sheet metal wall (Type 3) are used to prepare meals that need to be cooked on high heat. Similar to the other two types, this design facilitates the evacuation of smoke outside in the event of a potential fire. The last kind of kitchen (Type 4) is a recent

addition to the islands' architectural landscape, reflecting the use of more modern architectural principles in recently built houses.

Nonetheless, the habit of building kitchens outside the house, inherited from rural society, remains prevalent in both islands. This stems from the historical role of the kitchen as not only the area where the household meals were cooked but also as the place where rice was processed through different stages during the periods when islanders' living depended on rice. Therefore, it is not a coincidence that the kitchen is often found outside rather than inside the house. Yet, although Pokkali production has now stopped on the island, the majority of kitchens continue to be built outdoors to protect the house from smoke and excessive heating.

10.3.3 Building components

Kochi's characteristic warm-humid climate has led to the formation of vernacular architecture by the islanders. Islanders formed the climate-sensitive vernacular architecture in these settlements, notably by shaping building components. These building components form part of passive construction systems, locally owned and employed by the islanders, which help mitigate a range of climate-related problems, protecting buildings from rain, heat and humidity. Among the building elements designed by the islanders to create a comfortable living space inside the house, the study identified three building components, namely: roofs, windows, and doors.

10.3.3.1 Roofs

The most important function of a roof is to protect people against unfavourable weather conditions such as rain, extreme heat, wind and snow. This naturally applies to the case study islands, where roofs are key to create comfortable living spaces against the local climate conditions. In the islands, while some of the recently built houses have flat roofs, most of the buildings have hipped roofs with gables at the end that provide air circulation and thermal control in the house. Furthermore, the roof's overhangs protect the verandas and walls of the home, especially against the sun and heavy rains during the monsoon period (Figure 10.29).



Figure 10.29: Flat roof with provision of eaves in EMI (upper right and left corners), hipped roof in EMI (bottom left corner), and hipped roof with ears in CKI (bottom right corner).

10.3.3.2 Windows and doors

On the islands, rooms generally have two openings: a door and a window, or multiple windows, to ensure cross ventilation. The placement of eaves on the roof shields all windows of the houses from excessive rain, sun, and wind. Additionally, some of the windows have their dedicated eaves for added protection (Figure 10.30). In addition, most houses have narrow ventilation windows extending horizontally between the standard windows and the roof. These windows prevent the building from heating up by improving air circulation. Due to their location, they do not cause privacy problems related to visual introspection (Figure 10.31-32).



Figure 10.30: Windows protected by the eaves in EMI (left) and CKI (right).



Figure 10. 31: Example of glazed ventilation window in CKI (source: Varuna V.C, 2023).



Figure 10.32: Example of ventilation window located under the roof in EMI.

On the islands, doors are usually left open for ventilation purposes. Some of the ancestral houses on the islands use stable doors, whose design holds a key function in providing a comfortable and cool space inside the house. Natural ventilation is provided by keeping the upper part of the door open during the day. Meanwhile, the lower part remains closed. This configuration not only ensures a constant flow of fresh air but also prevents animals and pests from entering the house (Figure 10.33).



Figure 10. 33: Example of stable door in CKI (source: Varuna V.C, 2023).

10.4 Pokkali fields as ‘lived spaces’

This section presents the agricultural area, which is one of the two areas where everyday life practices are embodied. As in the residential area, this section introduces the spaces produced as a result of daily life practices at three scales, namely: settlement, building, and component.

10.4.1 Settlement pattern of agricultural area

The transition from monoculture farming to rotational integrated farming has also influenced the spatial organisation of the islands, transforming low-lying strip farming into a pond system surrounded by soil bunds (see Section 7.4). Thus, the landform of the islands was shaped according to the changing agricultural practices of its inhabitants and their needs. Currently, the places where the 'Rotational Pokkali-Prawn farming' is practised in Kochi are the ‘paddy fields’ surrounding the residential areas of the islands.

Over time, the residential lands of the islands were surrounded by agricultural areas by the islanders. The bunds (paddy field roads) surrounding the paddy fields have divided the agricultural land into distinct parts, similar to the plots found in the residential area. These bunds also provide convenient pathways for islanders to easily visit paddy fields to check out agricultural activities throughout the day. After the construction of the bunds, islanders strategically constructed fishing huts at certain points along these, to provide accommodation for when they have to wait in the agricultural land or sleep there at night. This integrated system, thus, formed a self-sustaining agricultural area, with fishing huts serving as shelters, bunds providing access to the agricultural land, and paddy fields designated for cultivation. The agricultural area, which consists of large chunks of paddy fields, is connected to the residential land through the network of bunds, although the nature of this connection differs in some respects across the islands (Figure 10.34).



Figure 10.34: Farming activities and their connection to the residential lands (left: Cheriya Kadamakudy, right: East Manjanakkad island).

Specifically, in Cheriya Kadamakudy Island, paddy fields surround the western and southern parts of the residential area. A large part of the residential area has a single-sided connection to the paddy fields with the river bordering the other side of the residential land. Thus, the islanders generally access the backyards of the houses from the agricultural land through the bunds. However, in the southern part of the island, paddy fields surround the residential land from both sides, granting islanders access to both the backyards and the main road directly from paddy fields. In East Manjanakkad Island, there are four different residential lands which differ regarding their connection with agricultural areas. While the main residential land is surrounded by paddy fields on both sides, offering access to the backyards and the main road from agricultural lands, the other three residential lands are enclosed by paddy fields on all sides.

10.4.2 Construction of paddy fields

Paddy fields (i.e., the areas where rice is planted) are made of three main elements: bunds, wooden sluice gates, and fishing huts (Figure 10.35). These elements were built by the islanders incrementally, according to the evolving needs of agricultural activities.



Figure 10.35: Components of paddy fields.

10.4.2.1 Bunds (paddy field roads)

Bunds, serve as embankments that surround the paddy fields, marking the first stage of their creation. Islanders build these bunds by placing soil and mud in between metal

sheets - after the soil is compacted and dried, the sheets are removed, resulting in the formation of these structures. When asked, Sobhita living on the East Manjanakkad Island explained the construction process as follows: *“Oh, chera (bund). It was filled up with mud like a bridge. Either stones or sheets are used to hold the mud in water.”* These bunds, which are about 2 metres wide, constitute the perimeter around the paddy fields, providing narrow pathways connecting the residential and agricultural lands.

10.4.2.2 The sluice gate

Another critical component in the construction of paddy fields is the wooden sluice gate. These sluice gates play an important role in controlling the water flow between the river and the paddy field. In Cheriya Kadamakudy and East Manjanakkad Islands, noticeable differences in water levels are evident across seasons and even during the day, due to the tide (see Section 6.2.3 for the tidal range of Kochi). Islanders take advantage of this tidal fluctuation, with water rising and falling twice a day, to prevent high water salinity from negatively affecting the cultivation process (Figure 10.36).

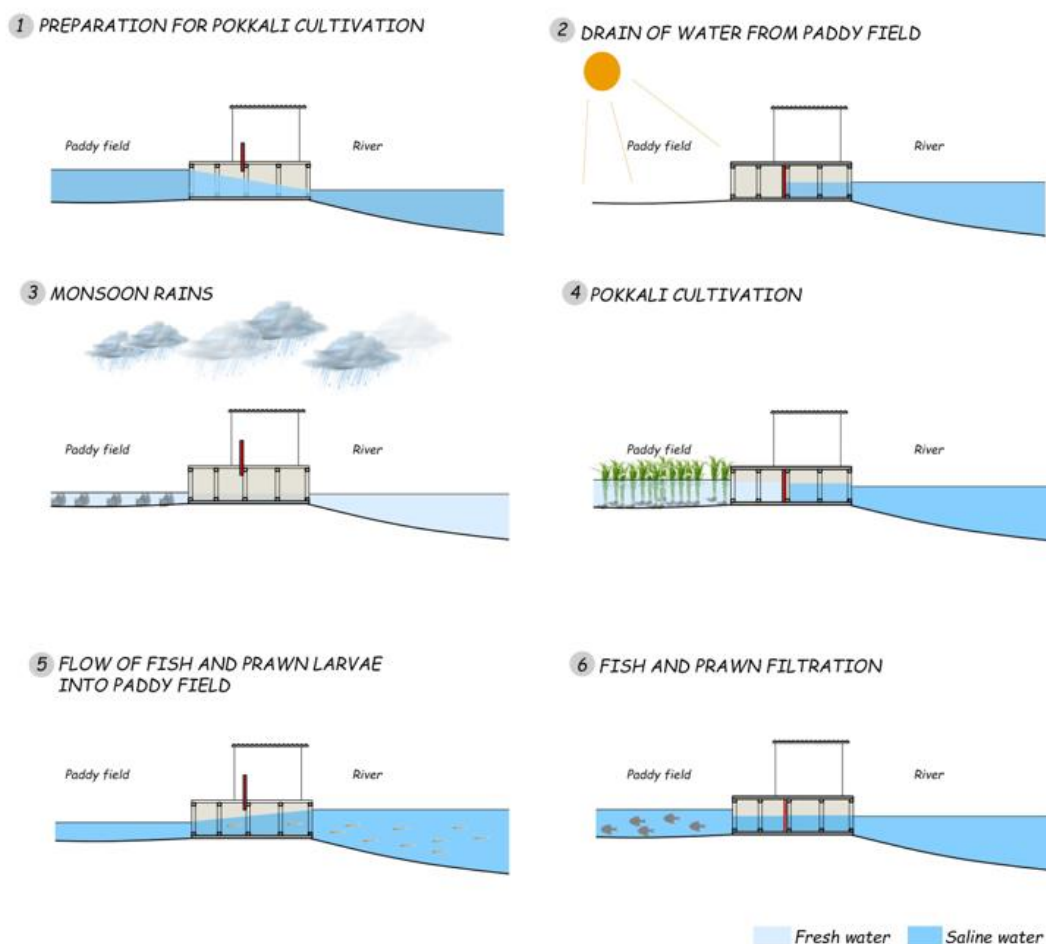


Figure 10.36: Usage of sluice gate based on tidal water.

For rice cultivation, it is essential to refresh the water, taking in a sufficient amount or throwing the excess water out. During low tide, the wooden sluice gates discharge the excess water into the river, whereas during high tide, they allow water to enter the field from the river. These devices control the water flow by taking advantage of the natural height difference caused by the tide between the river and the paddy field, requiring minimal physical effort from the islanders. Also, they function as prawn filtration devices after the Pokkali harvest, allowing the water to flow into the field during high tide to facilitate the natural entry of prawns and fish larvae. The net mounted on these gates by islanders prevents the larvae and prawns from escaping back into the river, ensuring their successful retention within the field.

10.4.2.3 The fishing hut

The fishing hut is constructed after the bunds and sluice gate, to control the cultivation process. These huts serve as observation points and are strategically positioned to see the paddy fields from the best angle. Islanders stay overnight in these huts, which are equipped with collapsible windows on the four sides, offering an unobstructed view of every corner of the nearby paddy fields. The fishing hut thus becomes a functional living space where islanders can monitor one or more paddy fields, sleep at night, and rest during the day. Since the islanders spend most of the day here, these huts are often furnished with a bed, a mini fridge, a fan, and storage for their belongings. In addition, palm trees are often planted in their proximity and along the bund, to provide natural air conditioning and minimise the impact of hot air during the day (Figure 10.37).



Figure 10.37: Fishing hut above the bund.

10.4.3 Resilient farming components

This agricultural model incorporates several additional artefacts, invented by the islanders to make this farming system more robust. These objects are key to maintaining the system and developing adaptations to the local climate conditions. Among these, the most important is perhaps the triangular-shaped structure made of bamboo components (Figure 10.38) that is found on the riverside. This structure prevents the sluice gate from clogging due to grasses floating on the water's surface. Suraj (public servant, CKI) explained the role of the bamboo trunk, stating: *"We keep this bamboo. This is African grass (showing the seaweed floating on the water). It floats on the water. With this bamboo, African grass will not come inside."* This reveals the thoughtful approach of the islanders in addressing and overcoming challenges within their farming practices.



Figure 10.38: Bamboo trunk.

Another important object is the lamp (Figure 10.39), placed by the islanders on the river-facing side of the sluice gate to attract more prawns, especially at night. They benefit from this lamp to provide natural entry for prawn and fish larvae when the water level changes at night due to tides. Joshua (farmer, CKI) explained the use of the lamp as follows: *“Water rises more at night than day. At night, we need to place a light in the water to attract the prawns.”*



Figure 10.39: Light to attract the prawns.

Finally, the fishing net rack closes the list of objects developed to sustain this farming model. As previously mentioned, the islanders place a net inside the sluice gate whenever the water level changes throughout the day to prevent the larvae from escaping the paddy field. Before and after this process, they keep their nets in the fishing net rack, which is conveniently located next to the sluice gate as shown in Figure 10.40.



Figure 10.40: Fishing net rack.

10.5 Analysis of Vernacular Architecture in Cheriya Kadamakudy and East Manjanakkad

The vernacular architecture that has developed in Kochi and its surrounding areas exhibits both similarities and differences with the houses on Cheriya Kadamakudy and East Manjanakkad Islands (please see section 6.5 for vernacular architecture of Kochi and Kerala). These are discussed in further detail below:

Settlement pattern

In settlement patterns, the islands' distinctive morphology comprising residential and agricultural lands, is a defining feature. These islands' location within a coastal zone, coupled with the presence of alluvial wetlands conducive to agricultural activities, has resulted in the emergence of a distinctive urban-agricultural landscape. Spatial relationship between residential and agricultural land on the islands, as defined by the presence of paddy fields roads, is a distinctive feature of the islands. This spatial relationship is the result of the necessity for islanders to traverse the distance between their residences and places of work during the daytime (please see section 10.3.1 and 10.4.1 for the detailed discussion).

Spatial organization at plot level

In terms of the spatial organisation at the plot level, two house typologies observed in the islands (please see figure 10.41) can be evaluated as a distinct typology, wherein the agricultural lifestyle and associated cultural practices are clearly evident. All houses on residential plots on the islands are surrounded by paddy fields, with some plots connected to agricultural land in gardens through bunds. Among two typologies, Type 2 is comparable to other vernacular houses such as nalukettu or ekasala in Kochi in terms of its location on the plot. It is situated in a location that is independent of other buildings on the plot. It establishes a relationship with semi-open areas. However, Type 1 exhibits a locality texture based on kinship, whereby relatives from the same family construct new dwellings on the same plot. This is also a settlement model endemic to the islands, due to the restricted land availability and the tendency for extended family units to reside together.

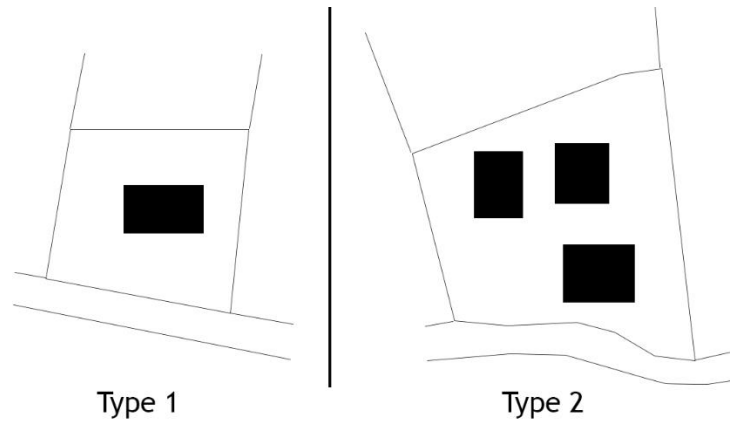


Figure 10. 41: Schematic plan of spatial organization of houses.

Design of the houses

There are similarities between houses on the islands the ekasala type of vernacular residential architecture in Kerala in terms of the user type and the I-shaped single shape. The Ekasala is the sole I-shaped rectangular house in Kerala that is inhabited by farmers or non-farmer middle class individuals. While the I-shaped houses found in the islands bear resemblance to the Ekasala type in terms of their shape and users, their spatial organisation differs significantly. Ekasala has three rooms arranged in an array (please see table 6.5 for vernacular house typologies in the region).

In the central room, the function is that of an agricultural warehouse (ara). In the rooms on either side, different functions are allocated, such as cooking, eating and sleeping. In the case of the islands, the living room is situated in the centre of the house, with rooms on either side. In contrast to the utilisation of domestic spaces for storage, the islanders predominantly employ fishing huts situated in agricultural areas.

Both typologies on the islands are characterised by a veranda as in Ekasala. Both Ekasala and houses on islands are designed with a front veranda. The examples of vernacular residential architecture in Kerala are similar to the Type 1 houses, which are single-unit structures situated within a plot. The Type 2 house on the islands is a distinctive architectural form, characterised by a spatial organisation that revolves around a central garden and kitchen area within the plot (see figure 10.42).



Figure 10.42: A comparison of the plan of Ekasala* with typical house plans on the islands.

* This drawing was produced by the author from drawings by Thampuran (1994, p76).

The construction and maintenance of these bunds is a traditional practice carried out by the islanders themselves. They provide a vital means of travel between the residents' homes and their agricultural fields, ensuring the continuity of daily agricultural activities even during the rainy season. The spatial configuration of houses, fields and bunds reflects a long-standing, centuries-old way of life on the islands in which the built environment and agricultural practices are closely intertwined. This integration of housing and landscape facilitated by bunds ensures the continued productivity and liveability of these reclaimed lands.

10.6 Conclusion

The natural factors such as monsoon rains, and tidal flows have significantly affected the everyday life practices of islanders living in Cheriya Kadamakudy and East Manjanakkad Island as discussed in Chapter 9, and consequently the production of spaces on these islands. This chapter examined the impact of everyday life practices which are further shaped by the constraints of natural factors on the spatial production of the islands and the extent to which these practices have shaped the local built environments of Cheriya Kadamakudy and East Manjanakkad Islands.

As discussed in Section 10.1, the islanders' everyday life practices in family and work life have contributed to space production at three different scales: the settlement, the building, and the building components. This chapter provided evidence that islanders' everyday life practices embedded in the family and work life resulted in the formation of two distinct areas on the islands: residential and agricultural areas.

Residential area

- I. At the settlement scale, the distribution of houses of islanders across the various land parcels on these islands is determined by kinship relations. Families from the same ancestral lineage have used to occupy the same plots or those in close proximity to each other and spread throughout the islands based on family structures. Therefore, In East Manjanakkad, the initial settlement was established at the two most distant points of the island, in the north and south. In Cheriya Kadamakudy, it was initiated in the north, south and middle of the island. Subsequent to the initial settlement, new members were incorporated into these families following marriage on both islands, resulting in the construction of new houses on the parcels where the ancestral house was located or in close proximity to it, depending on the kinship relationship. The areas where settlement first occurred are more densely populated on both islands, while the areas where settlement occurred at a later period are less densely populated. The disparity in population density is attributable to the fact that the initial settlers on the islands increased their numbers of households due to their longer stay.

Secondly, the islanders' choice of an ideal location, the direction of the entrance and the orientation for the houses, in accordance with the principles of Vastu Shastra, a traditional knowledge system for building, significantly influenced the configuration of the road system. The alignment of the houses with access from the east side has resulted in the emergence of a main road in a linear form that provides access to these houses and leans to the east of the residential lands of these islands. On both islands, as in informal settlements, roads emerged after houses were built.

Thirdly, the belief system of islanders had an impact on land use and building density in the islands. While the church in Cheriya Kadamakudy is located in the most visible place within the built environment, the temple is located in a more unbuilt area, as per Hindu belief. Similarly, on East Manjanakkad Island, the kavu (sacred grove) is located in the most unbuilt and natural area of the island, away from the houses as a part of the belief system of the islanders.

- II. At the building scale, house layouts appear to be based on family relations. Two typologies of building layout and spatial organisation within the parcels have been identified on both islands: (1) one large ancestral home housing multi-generations of the family and (2) a cluster of small houses with a shared garden and kitchen, belonging to the same family. In the first typology, there is one large ancestral home located in the centre of the plot. The joint family lives in this house under the same roof, and family members usually meet indoors and on verandas. In the second typology, there is a spatial organisation consisting of an ancestral house and other houses belonging to the same family clustered around it, as a result of the male islanders building their own houses on the same parcel after marriage. Family members interact socially in the space between buildings which is a garden with a common kitchen. In both types, the kitchen serves as a communal space where female islanders gather.
- III. At the building component scale, special components such as roofs, windows and doors, which take into account the wind direction, increase the thermal and ventilation performance of the overall building design and provide a comfortable space for the islanders from Cheriya Kadamakudy and East Manjanakkad Island. The gable roofs, which are found on the majority of houses on the island, serve a dual purpose: they provide ventilation and light to the attic. If there is no attic, they allow light to enter the rooms directly. In the absence of an attic, ventilation and light are provided directly to the rooms through this type of roof. Furthermore, placing doors and windows on the east and west facades allows natural airflow in the houses.

Agricultural area

- I. At the settlement scale, the most important factor influencing the settlement pattern of agricultural areas on islands appears to be the rotational farming practices developed by the islanders to secure their income within the unique kind of coastal environment of Kochi's backwaters. The space required for the rotational farming model has evolved into agricultural areas comprising paddy fields situated near the island's residential areas. The necessity for islanders to visit agricultural lands, according to the type of agricultural activity and the season, has resulted in the spatial organisation of agricultural areas that are spatially integrated with residential areas through bunds.
- II. At agricultural parcel, islanders have developed a spatial organisation consisting of fishing huts, bunds, sluice gates and paddy fields to implement rotational farming practices. The islanders have strategically positioned the fishing huts to oversee the paddy fields, provide a secure area for agricultural activities during the day or at night, and store their items. The bunds facilitate islanders' easy access to the paddy fields from their back gardens. The sluice gates play a significant role in the daily routines of the islanders. They are employed on numerous occasions throughout the day to regulate the water flow caused by the tide.
- III. At the component scale, the rotational farming model was developed by the islanders along with essential components like bamboo bodies, lamps, and fish net racks. Bamboo bodies prevent the clogging of sluice gates with their triangular form. Lamps are used to attract prawns. Fishing racks prevent prawns in paddy fields from escaping into the river when the sluice gate is opened during the prawn filtration period.

In conclusion, the research demonstrates that while kinship relations, belief systems and family relations are the primary factors influencing the settlement pattern of the island's residential area, the rotational farming model developed by the islanders and its requirements are the factors that shape the agricultural areas of islands.

CHAPTER 11

CHAPTER 11: CONCLUSION AND DISCUSSION

This chapter presents the findings of this research, which examines the relationship between natural factors, everyday life practices and the production of spaces through natural land formation as identified in the framework of the research (see Figure 3.1) in the context of Kochi, India. This chapter outlines the key findings, its limitations, the contributions to knowledge, recommendations for designers, planners and policymakers, and avenues for further research. Land reclamation and natural land formation are often found to be ways in which settlements have grown in estuary and coastal regions. This research specifically looks at the natural land formation rather than the artificial land reclamation process.

Previous research has identified that natural factors have a significant influence on a multitude of aspects of people's everyday life practices (Kellert 2004; Borg and Davidson 2008; Lejano et al. 2013; Lucas et al. 2015; Salonen et al. 2018; Hunter et al. 2019). Some argue that the lifestyle of people affects the spaces where they live (Babere 2015; Warakanyaka and Atmodiwirjo 2017; Cihanger 2018; Cihanger Ribeiro 2019), while others claim that natural factors are regarded as important factors shaping space from an ecological and environmental perspective (Anselm 2006; Vakili-Ardebili and Boussabaine 2010; Lan 2011; Rosales 2017; Heymans et al. 2019; Shilky et al. 2024). However, no research has yet been conducted to examine the impact of natural factors on everyday life practices and, in turn, the influence of these practices on the production of spaces. This study aims to bring together three components which are everyday life, natural factors and the production of spaces in settlements that are developed by the natural land formation process to understand the relationships between them.

The land reclamation process has been the subject of study by numerous researchers in the fields of engineering (Vanicek 1977; Van Lier and Steiner 1982a; Hua 2014b; Stauber et al. 2016; Shi et al. 2017; Sengupta et al. 2018), ecology and environmental studies (Van Lier and Steiner 1982b; OSPAR 2008; Chee et al. 2017; Ghaffari et al. 2017; Medam 2020), and economics (Kolman 2012; Zhu et al. 2017; Sengupta et al. 2018; Li et al. 2020). Nevertheless, the socio-spatial structure of the settlements in reclaimed land has been largely overlooked, and its significance has been previously overlooked from the perspective of urban development.

While some argue that the land reclamation process has significant social, cultural and structural impacts on the cities (Ardhana and Farhaeni 2017), others claim that the land reclamation process damages identity (Zeballos and Yamaguchi 2011) and the relationship between place and memory (Yilmaz 2018). These discussions have primarily focused on the artificial land reclamation process which is carried out by governments as a part of urban development. However, little is known about the role of local practices and traditions regarding settlements that have grown in naturally formed land in coping with coastal stress and their impacts on the settlements created by reclamation.

Against this background, this thesis is set up to investigate the processes and factors contributing to the development of climate-resilient agricultural practices through natural and organic land formation processes by islanders living in the coastal city of Kochi, with particular consideration for the production of their spaces. The impact of this land reclamation process on nature and on communities that were formed by such development needs a better understanding of the symbiotic relationships between three key components namely, the impact on the natural process, the impact on the everyday life of people and how these should shape the spaces within the settlement.

In this context, the research aims to shed light on the economic and social forces, and natural factors, shaping the everyday lives of the islanders, to decipher the organisation of spaces produced under their influence. To understand this, two islands, Cheriya Kadamakudy and East Manjanakkad Islands, were selected for detailed study. Archival, spatial and ethnographic research were conducted to answer three research questions:

- 1: How do natural factors affect everyday life practices?
- 2: How does the natural land formation process inform the production of space in the settlement?
- 3: What is the nature of the symbiotic relationship between everyday life practices and spaces and patterns of settlements in organically and naturally formed land?

11.1 Summary of Findings

The findings of this research have been divided into three groups, in alignment with the research framework. The first two groups include findings on how natural factors affect the everyday life of the islanders (Section 11.1.1) and consequently the landform and settlement morphology of islands (Section 11.1.2), respectively. Subsequently, Section 11.1.3 presents the third group of findings, related to how their everyday life practices affect the production of spaces.

11.1.1 Impact of natural factors on everyday life practices

The results of this research show that nature has a significant impact on the daily lives of the islanders living around the Kochi waters. The most important of these influences is its impact on livelihoods. The topography of the islands, their arable land and their proximity to water resources were the main factors that led the islanders to settle and farm on these lands. However, flooding caused by monsoon rains (which have been frequent in this region throughout history), high water salinity, and ongoing sea level rise have negatively affected the islanders' monoculture farming model. This is why they began to implement the pond farming system, which allows for rotational farming. This innovative 'rotational (integrated) farming system' invented by the islanders helped them to mitigate the threats posed by nature to their agriculture-dependent economy and to reduce their dependence on external resources. The islanders developed and perfected this system, drawing on knowledge passed down through generations and driven by the need to adapt to natural conditions.

The landform is the most important factor affecting the family life of the islanders, resulting in the formation of a community that originated from a common ancestral lineage, inhabited the same plot and shared the same garden within the islands. This landform also influenced the location and accessibility of religious structures, leading to the creation of common areas on the islands.

11.1.2 Impact of natural factors on landform of settlement morphology of islands

This research has found that natural factors have influenced land formation on the islands in two periods. The first is the natural land formation process that results in the residential areas

of the islands. During this period, monsoon-related discharges, and southwest and tidal currents are the most effective factors. The second is the natural and organic land formation period. During this period, the islanders expanded their agricultural areas towards the estuary. The most effective natural factors in the reclamation of agricultural land are monsoon rains, tidal currents and the salinity of the water. The region's exposure to frequent monsoon rains and high salinity has led the islanders to gain agricultural land through the construction of paddy fields.

11.1.3 Impact of everyday life practices on landforms and resulting settlement patterns

The research findings indicate that the islanders' everyday life practices in family and work life have contributed to the production of space at three different scales: the settlement, the building, and the building components. At the settlement scale, kinship relations and the belief system of islanders affected the distribution of houses and, as a consequence, density and land use patterns. Furthermore, islanders' traditional knowledge system for building significantly influenced the configuration of the road system, resulting in a main road in a linear form that provides access to these houses and leans to the east of the residential lands of these islands. At the building scale, the construction of family structures has resulted in two distinct typologies of building layout and spatial organisation within the parcels on both islands. The first typology comprises a single large ancestral home, which serves as a residence for multiple generations of the family. The second typology is characterised by a cluster of small houses, each with a shared garden and kitchen, which belong to the same family. At the component scale of the building, specific components such as roofs, windows and doors provide a comfortable environment for islanders, while also ensuring sufficient ventilation and light for all their activities.

11.2 Limitations of the research

Findings from this research do have some limitations such as focusing on a single city, time constraints, language barriers, cultural backgrounds and lack of population data for islands. It is essential to consider the generalisability of this research's conclusions before their transfer to other locations. The everyday life practices are unique to a city or culture, and thus,

a study that exemplifies one city has inherent limitations in transferring its findings to other locations without contextualising them.

A further limitation of the research is the size of the sample. Given that the research focused on the everyday life practices of the islanders, it was decided to conduct in-depth interviews and observational studies with participants. Local connections, gatekeepers and the snowball sampling method made it easier to reach participants who met the research's criteria, especially in hard-to-reach populations like the one in this study.

Another limitation of the research was the language barrier, which hindered the exploration of archives due to the archaic language used in the documents and the flow of interviews during the data collection phases. The language barrier required developing strategies specifically for Malayalam, the native language of the participants because it posed challenges when informing the participants before the interview about the research scope and purpose and conducting semi-structured interviews. To overcome this, and allow them to feel more comfortable and safer, participant information sheets and consent forms were distributed to the islanders in both English and Malayalam (Appendix 8-11). Additionally, local researchers who were fluent in both languages accompanied the visits to the islands, facilitating more efficient communication and understanding of local nuances during interviews. With the support of local researchers, an opportunity was obtained to conduct the research in the participants' native languages, where they could express themselves more efficiently and understand their local codes.

A notable limitation of this research is the absence of recent population data for the islands. The lack of government-led population surveys specific to the islands since the 1980s has prevented this study from examining population changes among island residents and from objectively assessing the underlying causes of these changes.

All these constraints made it necessary to organise research systematically. Despite the challenges, the researcher's proactive measures ensured the successful execution of the study, highlighting resilience in the face of unforeseen circumstances.

11.3 Contributions to knowledge

This research made several contributions to the knowledge base in the field of sustainable and climate-resilient development, particularly in relation to the morphology of settlements and the everyday life practices that shape them as outlined below.

11.3.1 Contribution to sustainable and climate-resilient development debate through the land reclamation process

In the sustainable development debate, land reclamation is defined as a tool to promote social development and economic growth in coastal areas (Zhu et al. 2017), with direct or indirect environmental impacts on human life (Bhunia et al. 2021). Within this discourse, the severe ecological and environmental effects of the reclamation process on the coasts, associated costs, social effects on human life, and legal restrictions, are the most emphasised aspects. This research questioned narrow-focused and technocentric definitions of land reclamation (Koroglu 2016; Stauber et al. 2016; Jafari et al. 2018; WWT Consulting 2018), that ignore urban development processes and emphasise it from ecological, and environmental (Vanicek 1977; Van Lier and Steiner 1982a; OSPAR 2008; Medam 2020) and economic perspectives (Kolman 2012; Li et al. 2020). This research contributed to the spatial dimension of the sustainable development debate through an analysis of the natural land formation and artificial land reclamation process. For the sustainable development, it discussed the utilisation of natural and organic land reclamation. Natural and organic land reclamation process refers to a bottom-up approach influenced by nature and everyday life practices, implemented mainly for agricultural purposes. This research carried out a spatial analysis of a settlement formed as a result of this natural and organic land reclamation (section 8.2, 8.3 and 8.4) at three scales which are settlement (section 10.3.1 and 10.4.1), building (section 10.3.2 and 10.4.2) and building component scales (section 10.3.3 and 10.4.3).

The concept of a 'rotational farming system' (integrated farming system) occupies an extensive area in the literature. There has been a growing interest in this system, which consists of rice and fish over the last 30 years (Fernando 1993; Little et al. 1996). These studies highlight this farming model to secure food supply (Hu et al. 2016; Kashyap et al. 2022), its benefits to climate resilience (Yu et al. 2022) and its advantages in terms of profitability and employment (Malo 2020; Kashyap et al. 2022). This research presented the agricultural

practices adopted by islanders in two representative case studies, tracing their effects on landforms and settlement patterns. Furthermore, it narrates the transition from monocropping farming to rotational farming, showing how the change in production methods is reflected in spaces' organisation in naturally and organically formed land.

In the context of Kerala, this model is based on Pokkali and fish or prawn farming. A significant number of researchers draw attention to the importance of Pokkali in this system, concerning soil structure (Antony et al. 2014), the salinity level of the environment in which this rice is cultivated, and economic aspects (Sathiadhas et al. 1989; Joy 2013; Ranjith et al. 2018b; Ranjith et al. 2019), ecological considerations (Nambiar and Raveendran 2009; Kumar and Kunhamu 2021), environmental aspects (Ranjith et al. 2018b), and the system's resilience to climate change and natural factors (Adithya V.K. 2020; Anjana 2020). This research shows that this agricultural model, which allows crop rotation, ensures the islanders' food security, especially considering the importance of rice as a staple food for a substantial portion of the global population. It operates on a sustainable system that allows both Pokkali and fish farming without external inputs, thereby contributing to the economic and social revitalisation of rural areas. The thesis also provided a detailed spatial description of this system, specific to Kochi, Kerala, revealing how the islanders developed this system. It classified the spatial characteristics of this agricultural model from the settlement scale to the component scale. It also recorded the relationship between paddy fields, which constitute the agricultural area, and the residential land where the islanders live. Through maps, sketches, plans, sections and diagrams, the study explained how agricultural and residential lands jointly form a cohesive living space.

11.3.2 Contribution to the debate on the morphology of settlements through the lens of everyday life practices under the influence of natural factors.

Many researchers have highlighted the importance of natural factors in the evolution of the spatial morphology of human settlements (Zhou et al. 2013; Tao et al. 2017; Li et al. 2018; Wang and Yuan 2019). On the other hand, policies, traditions, beliefs (Li et al. 2018), traditions (Ahuja (1980), the caste system, land tenure (Haimeed 2000), and socio-economic changes (Koter and Kulesza 2006) are other influential factors highlighted in the literature on the evolutionary process of rural settlements.

This research, unlike others, looks holistically at how natural factors affect everyday life practices and how these practices affect the production of space on two specific islands that have been naturally formed and subsequently shaped by their settlers. This research establishes a triad between natural factors, everyday life practices and space to examine the production of spaces at different scales and in different areas of the islands. This research confirms that, while settlements grow in close relationship with natural factors, the everyday lives of their inhabitants constantly shape them. Examining kinship relations, belief systems, traditions, and lifestyles of joint families, the research revealed their impact on the spatial layout of the islands. Kinship relations were found to influence the spatial texture of these islands and, subsequently, house distribution, while belief systems affected the building density around religious structures. The family structure, whether living under the same roof or in different homes scattered on the same plot, also plays a crucial role in this process.

This research contributes to the knowledge of climate change and everyday life practices, clarifying how the everyday lives of islanders in Kochi are affected by climate change and environmental conditions, and how they take precautions against them through tradition. The research found that traditional knowledge system for building inherited by the islanders from their ancestors were essential in shaping the spatial patterns of the islands. This in turn demonstrates the influence of this type of biophilic design, which is rooted in cultural practices and traditions, in creating harmony between the natural environment and the people. Notably, in the islands, these practices have influenced many aspects of the production of space at many scales, affecting both settlement and building organisation and construction. Unlike previous studies that have focused on building layout (Suriyanarayanan et al. 2016; Antara 2017; Barodia 2019), this research presented an in-depth cross-analysis of how the islanders used this ancient knowledge at the building, settlement, and the building component scale, clarifying the climatic benefits derived.

Overall, this research reveals the characteristics of a sustainable settlement example, where agricultural land and residential land coexist, and have a strong relationship reflected in the organisation of open semi-open-closed spaces, streets, and housing patterns.

11.4 Recommendations

This research provides key insights into house and settlement planning and implementation for islands located in Kochi's backwaters. Results of this research highlight that the studied settlements are in harmony with their natural environment, employing passive design strategies characteristic of vernacular architecture. Notably, the islanders themselves are the architects of their houses and planners of their islands. The principles applied by islanders to the design and construction of their buildings and settlements have evolved through generations, reaching their most effective form today in responding to coastal communities' everyday necessities and adapting to local climate characteristics. However, due to climate change and the decline of Pokkali cultivation in Kerala, these settlements are threatened with extinction. Therefore, it is important to transfer the sustainable and resilient features of these vernacular architecture to the present-day cities through the traditional knowledge of the islanders. The results of this study have been used to develop recommendations highlighted below:

- Sensitivity to the everyday lives of the islanders and the morphology of their settlements should be considered in the design and planning process of the islands. For that, a bottom-up approach to planning should be adopted so that islanders can play a role in the planning process. In this way, sensitivities regarding the physical structure of settlements and the everyday lives of islanders can be understood and the islanders' problems such as lack of water supply systems, sanitation and transportation problems can be addressed.
- This bottom-up planning approach is of significant importance for the spontaneous self-organisation processes of Cheriya Kadamakudy and East Manjanakkad Islands. However, the combination of top-down policies and spontaneous self-organisation processes represents a key area of interest in understanding and sustaining the adaptability of the islanders, their environment produced through land reclamation process to climate-induced changes in Kerala state.

- Kerala State Disaster Management Authority (KSDMA) and other related departments should conduct environmental analyses, including elevation mapping, vulnerability analysis and risk assessment, in order to identify low-lying areas on the islands

that are most at risk of flooding. Given the high incidence of flooding on both islands during monsoon periods, the data obtained from the analysis could assist the islanders in identifying the optimal locations for planting and in determining the areas where flood prevention measures are most necessary.

- Agriculture Department in Kerala should engage in close collaboration with the islanders to facilitate the development of crop insurance schemes and to gain a deeper understanding of the islanders' specific needs and vulnerabilities. Conversely, the islanders can contribute to the development of this collaboration through their feedback, given their intimate knowledge of the local environment and traditional practices. The integration of a bottom-up planning approach with top-down policies can facilitate the implementation of climate-resilient solutions that are firmly grounded in traditional knowledge and supported by government intervention.
- - Most islanders have abandoned Pokkali cultivation, primarily due to high labour costs, low profitability, and a lack of modern equipment. Consequently, they have shifted towards prawn filtration as this presents a higher profitability. It represents a significant impediment to the establishment of a sustainable system. The government of Kerala and Pokkali Land Development Agency should take action and support islanders in providing the required equipment for the rice cultivation period. The viability of this system can be enhanced through the implementation of government-sponsored initiatives.
 - New partnerships should be done with certain educational institutions, such as the Rice Research Station under Kerala Agriculture University, and foundations like M S Swaminathan Research Foundation for two ways to transfer knowledge. For that, an internship programme should be organised in which the traditional agricultural practices of the islanders are presented to the students and new agricultural methods are introduced to the islanders.
- Zoning regulations can be designed in a culturally sensitive manner, given that the islands are characterised by a combination of informal settlements comprising agricultural areas and residential areas where relatives live in shared urban spaces. Consequently, it is essential that zoning regulations are devised in a manner that ensures

the continuity of this cultural life. However, the current zoning regulation does not consider the unique way of life on the island.

-Local governments, specifically the Panchayats, should facilitate gatherings for the islanders. Such meetings could inform the formulation of zoning regulations aimed at safeguarding the spatial organisation of agricultural lands, residential areas, urban spaces and sacred sites, with the active involvement of these islanders who possess a comprehensive understanding of cultural norms and traditions.

- The spatial organisation of the settlement and the spatial integration between agricultural lands and residential areas are distinctive features of the islands, shaped informally in accordance with local living practices. It is imperative that the government formulates new regulations that take these aspects into account. Moreover, the coastal regulations pertaining to the coasts should be distinctly delineated from those applicable to the smaller islands situated in the estuary of Kochi.

- The eco-tourism potential of Cheriya Kadamakudy and East Manjanakkad Islands should be explored to generate income and employment opportunities for the islanders. Careful planning should be considered so as not to disrupt the way of life of the islanders and damage the natural environment.
- Kerala government should consider allocating adequate financial support to the development of Pokkali varieties and increase their cultivation over a larger territory and implement policies to make Pokkali cultivation financially viable for islanders. This could be achieved through the introduction of schemes consisting of subsidies and new supporting policies.
- Given the density of the child population on East Manjanakkad Island, consideration should be given to planning a children's playground.
- A bridge should be considered for East Manjanakkad Island so that islanders can reach the hospital in case of emergency and children can have the right to uninterrupted education, especially during the monsoon season.

11.5 Future studies

This research analysed two islands located in the backwaters of Kochi. These case studies provide a critical snapshot of a specific settlement morphology, offering an in-depth understanding of which in the everyday lives of individuals belonging to families living jointly shape the physical structure of their settlements. Although ethnographic studies do not require covering a large number of case studies and the research findings are deemed satisfactory, further investigation of the everyday life of the islanders and the morphology of the islands on the backwaters of Kochi is recommended. This will allow further insights and facilitate comparisons concerning the relationship between the form of the islands and the culture of their inhabitants. To achieve this, the research suggests the following approaches:

- Engage in discussions with a larger number of islanders through focus groups to overcome sampling limitations.
- Conduct interviews not only with islanders but also with policymakers, as well as local architects, planners, and designers who are experts in working in rural areas to devise national and regional strategies for the design and construction of settlements in naturally formed land.
- Include examples of settlements in naturally formed land with a diverse location and climates to understand the difference in the impact of the cultural background and climate on landform, morphology and production of spaces.

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APPENDICIES

APPENDIX 1: Map produced in the scope of Liveable Urbanism Unit



APPENDIX 2: Handouts of workshops

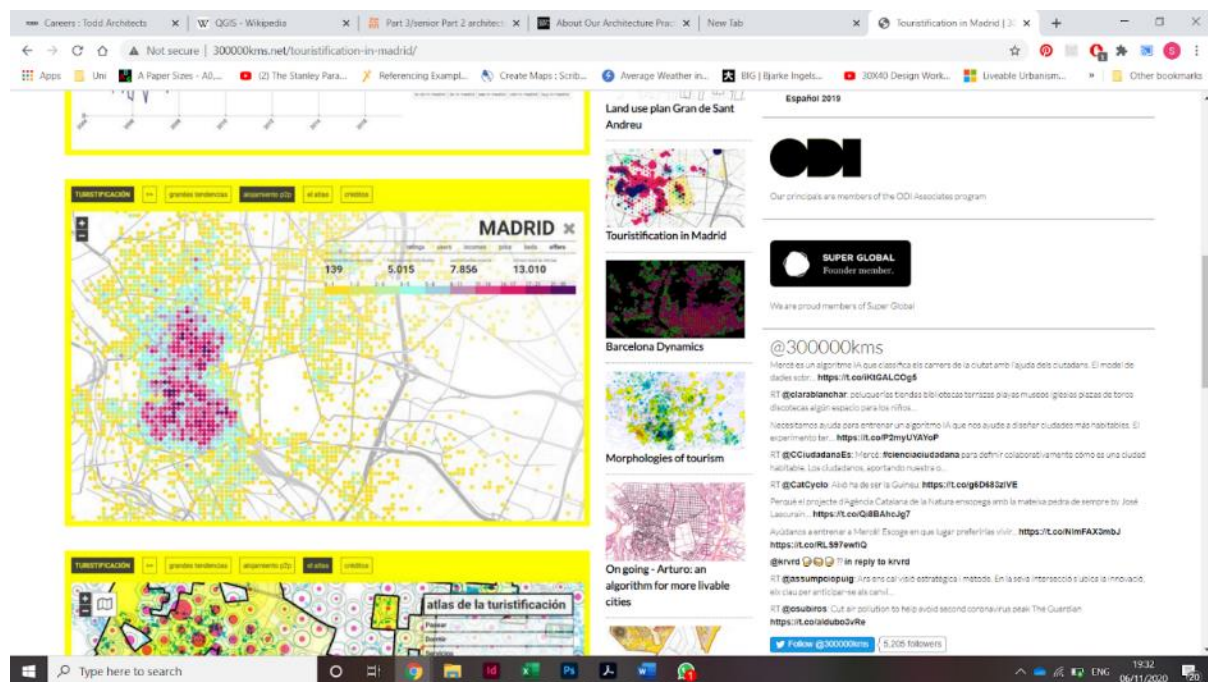
(prepared by Yagmur Burcu Gunes and Shannan Kamalaneson)

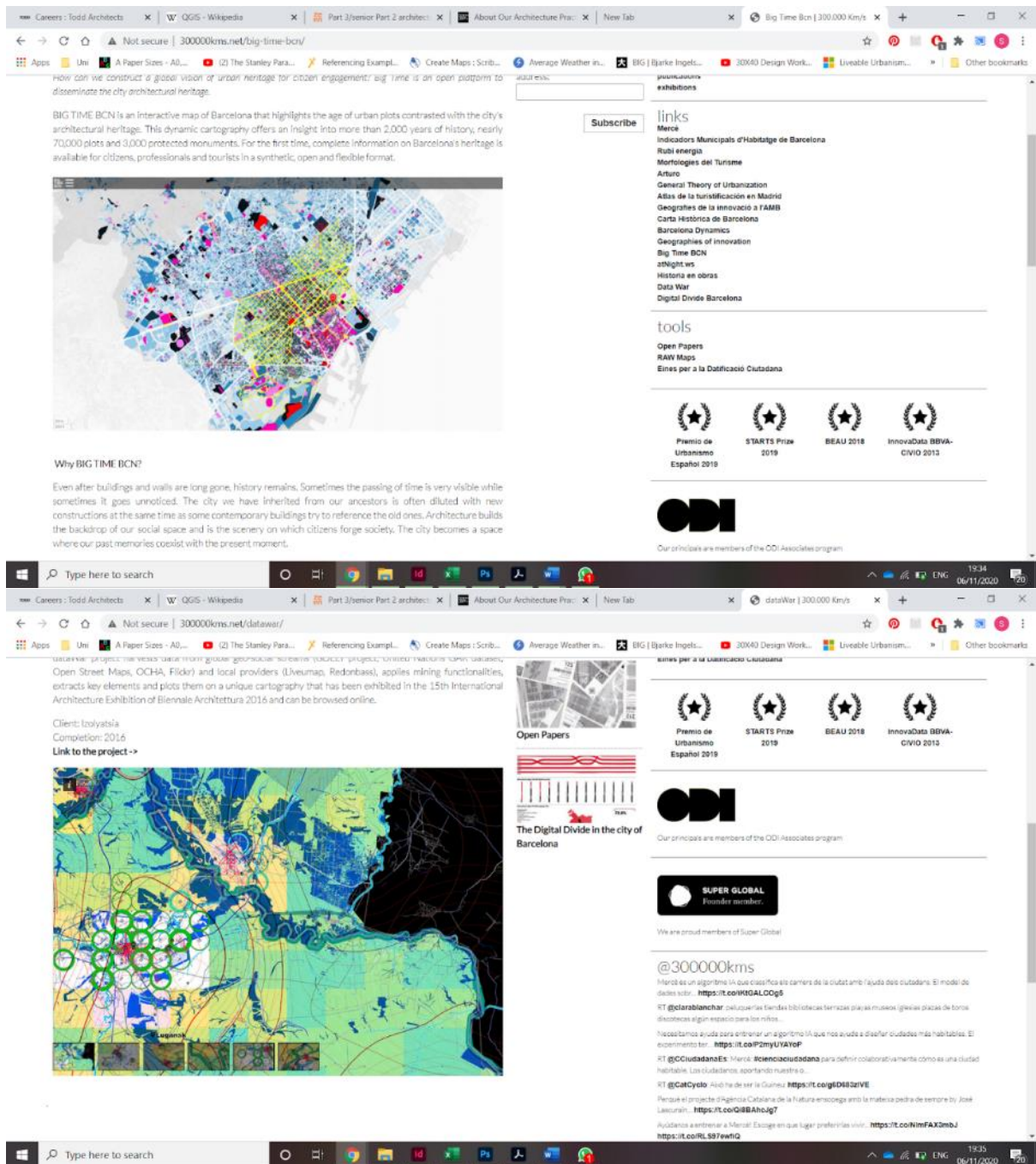
Handout 1

QGIS WORKSHOP

What is GIS: 'Geographic Information System (GIS) is a framework for gathering, managing, and analysing data. Rooted in the science of geography, GIS integrates many types of data. It analyses spatial location and organizes layers of information into visualizations using maps and 3D scenes. With this unique capability, GIS reveals deeper insights into data, such as patterns, relationships, and situations—helping users make smarter decisions.'

QGIS: QGIS is an open-source GIS platform. The software allows you to analyse and edit spatial information gathered on Kochi in order to collate spatial data and allow you to create maps. QGIS allows both raster and vector layers. We will be using QGIS to draw out the building forms using vector data and add information to these polygons using points in order to create our own google maps styled data resource. At the end of course we hope you will be able to produce maps that look something like this:





Source:

<http://300000kms.net/>

DOWNLOADING QGIS:

Please download QGIS version 3.16 from this link, MAC and Windows are both available:
<https://qgis.org/en/site/forusers/download.html>

TIMETABLE:

QGIS WORKSHOP I

Time: Nov 12, 2020 10.30 GMT to 12.30 GMT

Content: Introductions/ Digitising Kochi

QGIS WORKSHOP II

Time: Nov 16, 2020 10.30 GMT to 11.15 GMT

Content: Progress meeting and merging data

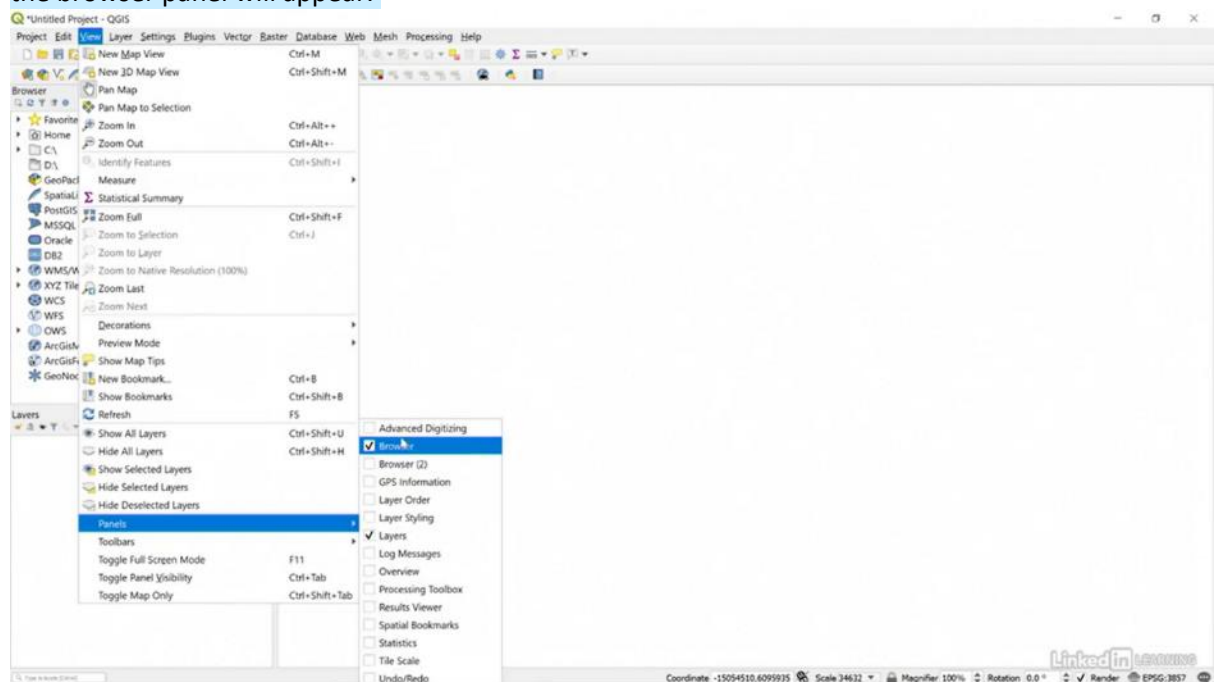
QGIS WORKSHOP III

Time: Nov 17, 2020 10.30 GMT to 12.30 GMT

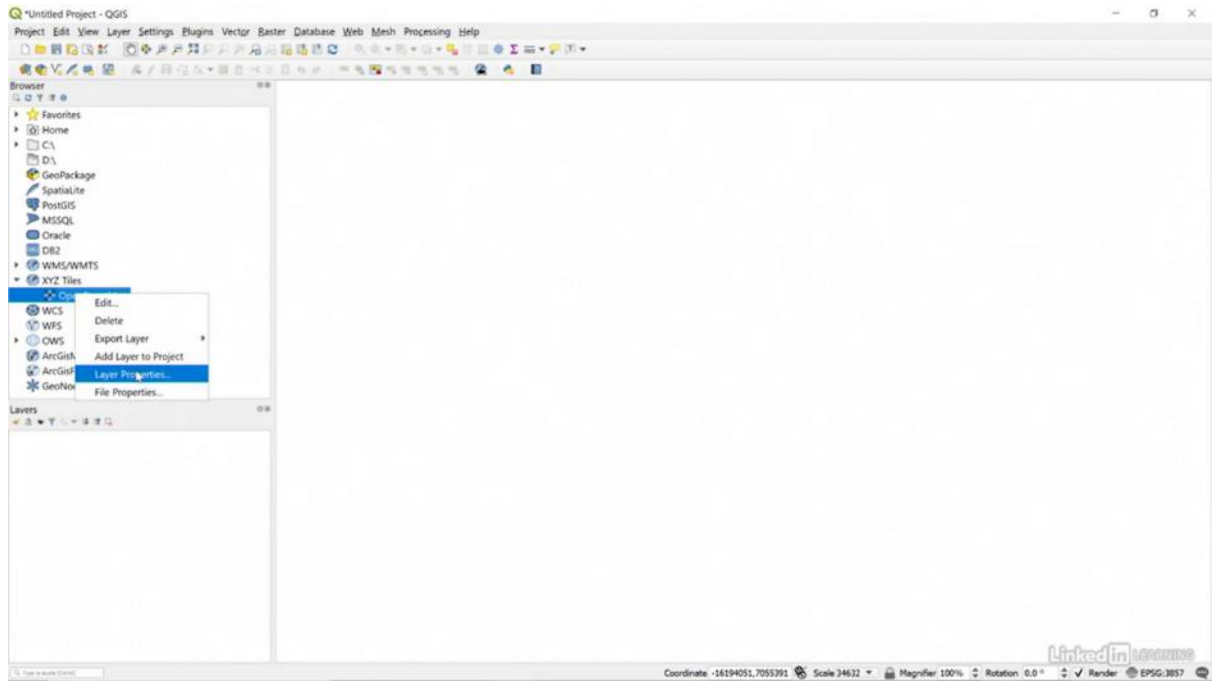
Content: Merging 2nd source of data, advanced query operations, plugins, basic analysis

Handout 2

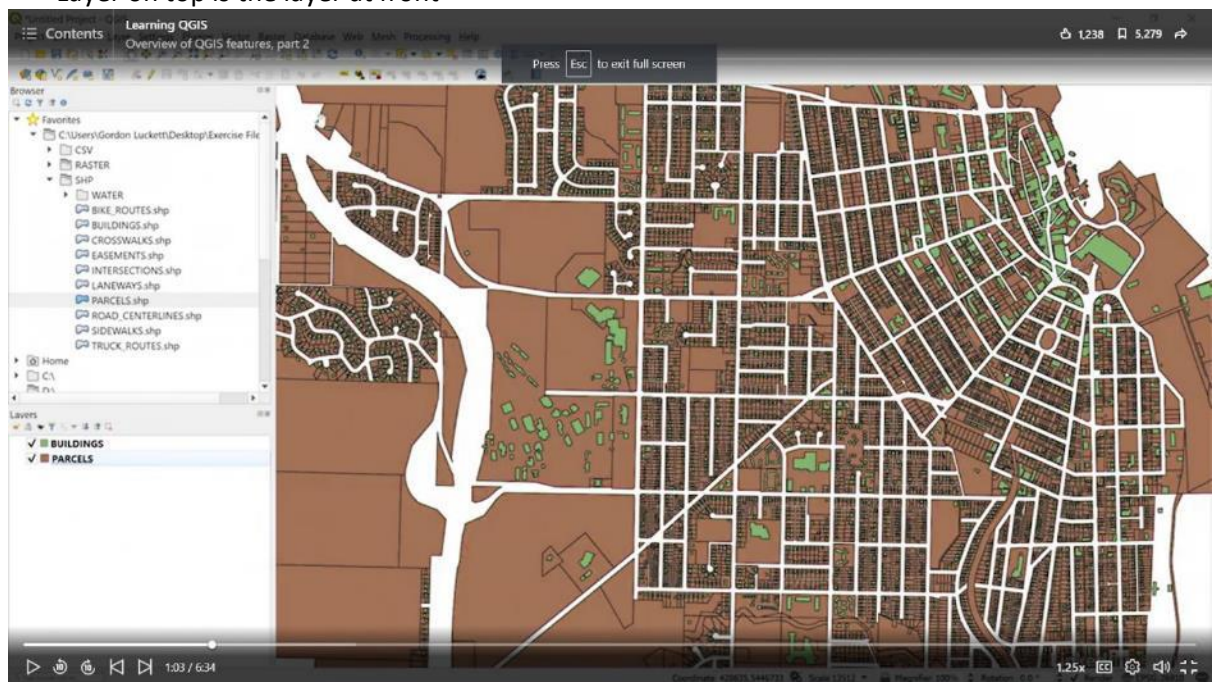
- Nowhere else will you find an enterprise mapping system that does everything most commercial packages can do for absolutely free. We're going to deep dive into all the amazing GIS and mapping tools that QGIS has to offer.
- We will explore all of the components of QGIS for data collection, analysis, mapping and sharing in data.
- First ensure your browser is visible: View Panels, and check the browser check box. That way the browser panel will appear.



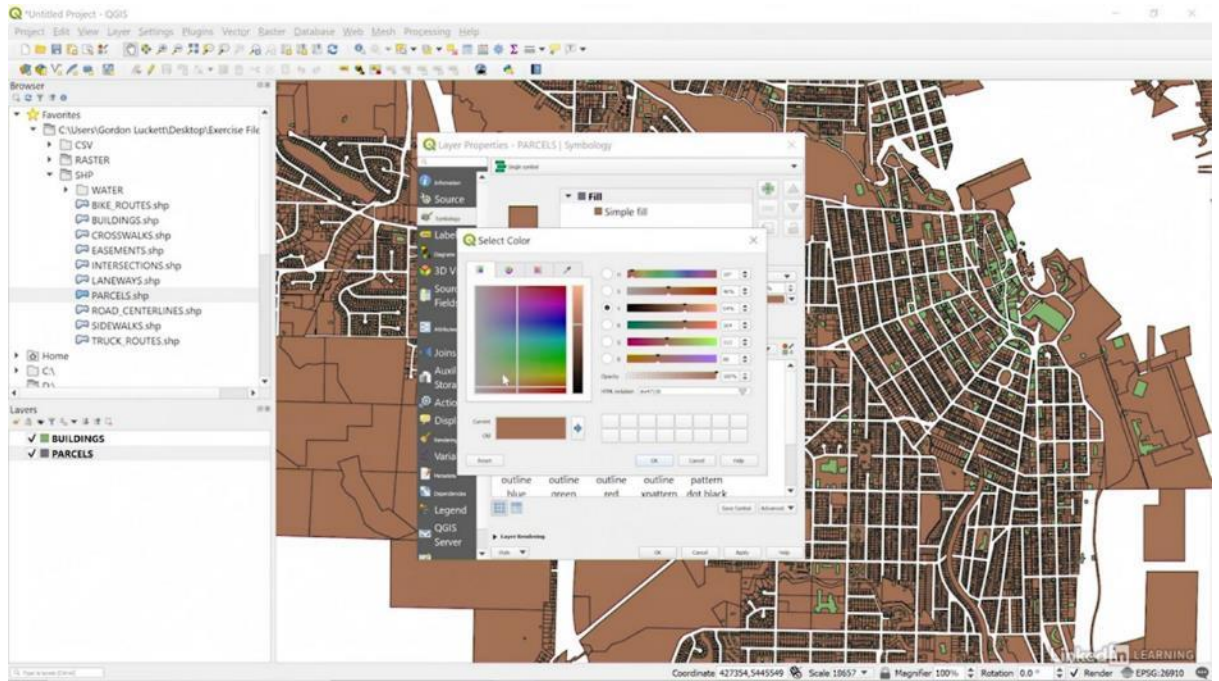
- XYZ tiles such as Openstreetmap. Let's look at those layer properties. You can see that it's coming from www.theopenstreetmap.org. And if we hit preview, there it is. It's the whole world. We can actually add that to our map later



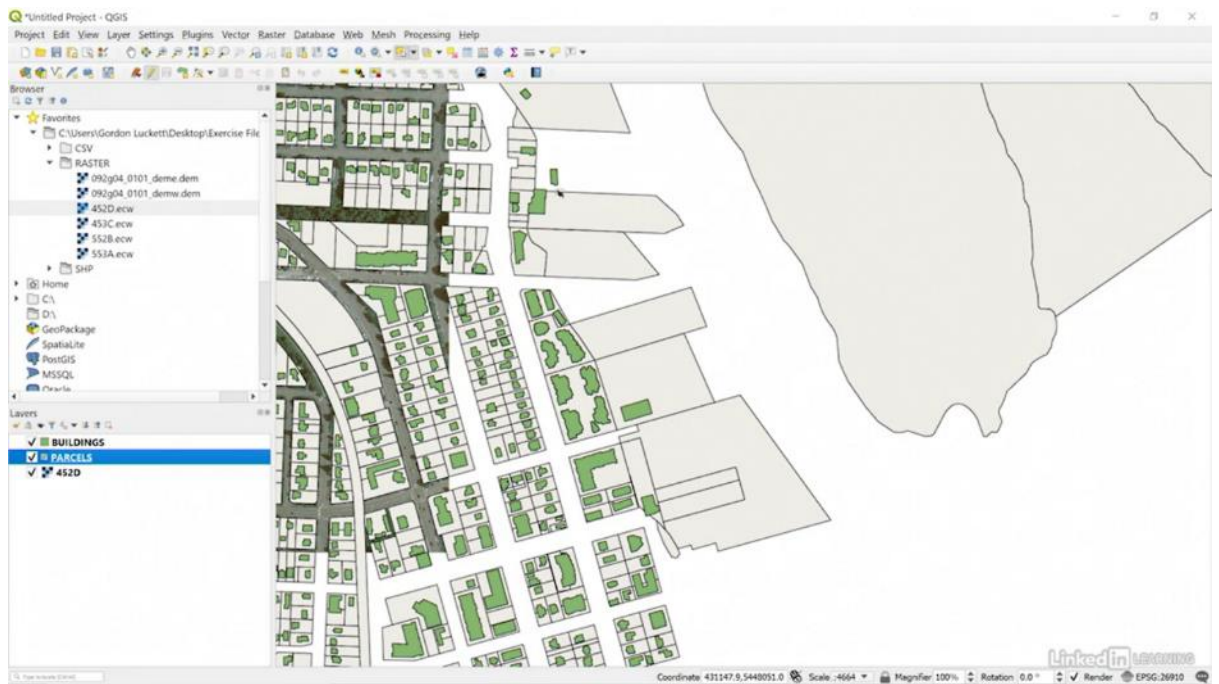
- You can just drag and drop data in
- Layer on top is the layer at front



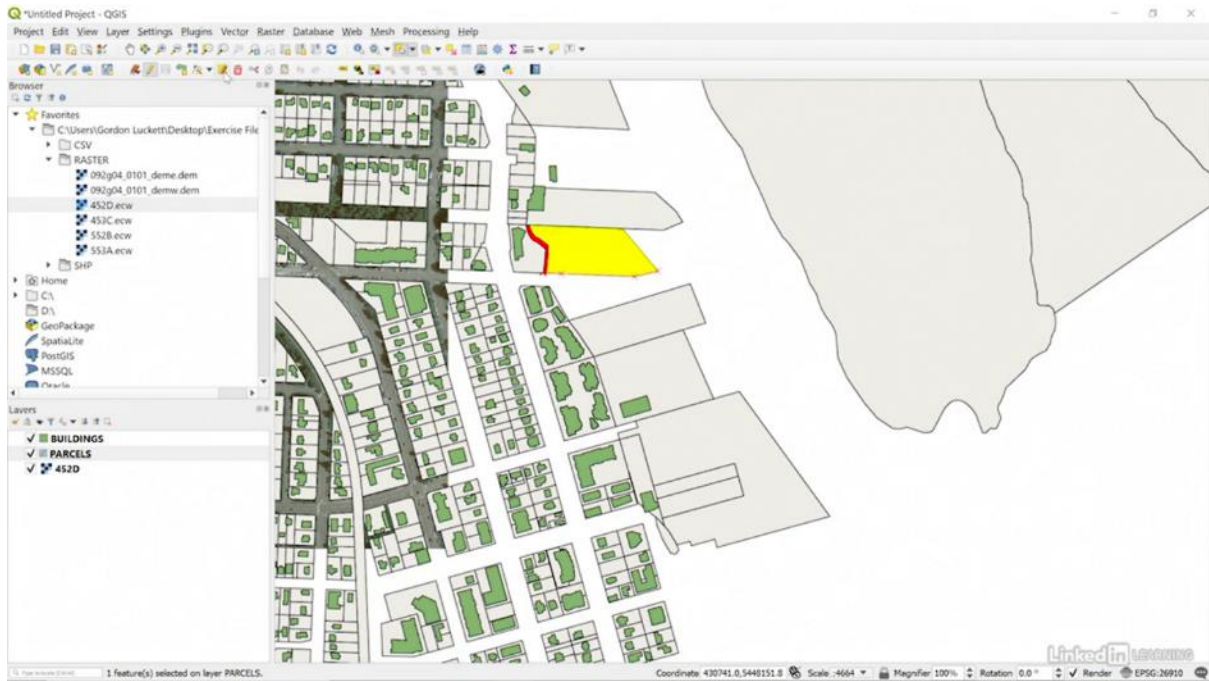
- Zoom tool or wheel of mouse allows you to zoom in an out
- Can change colour of layer by double clicking or right click and properties



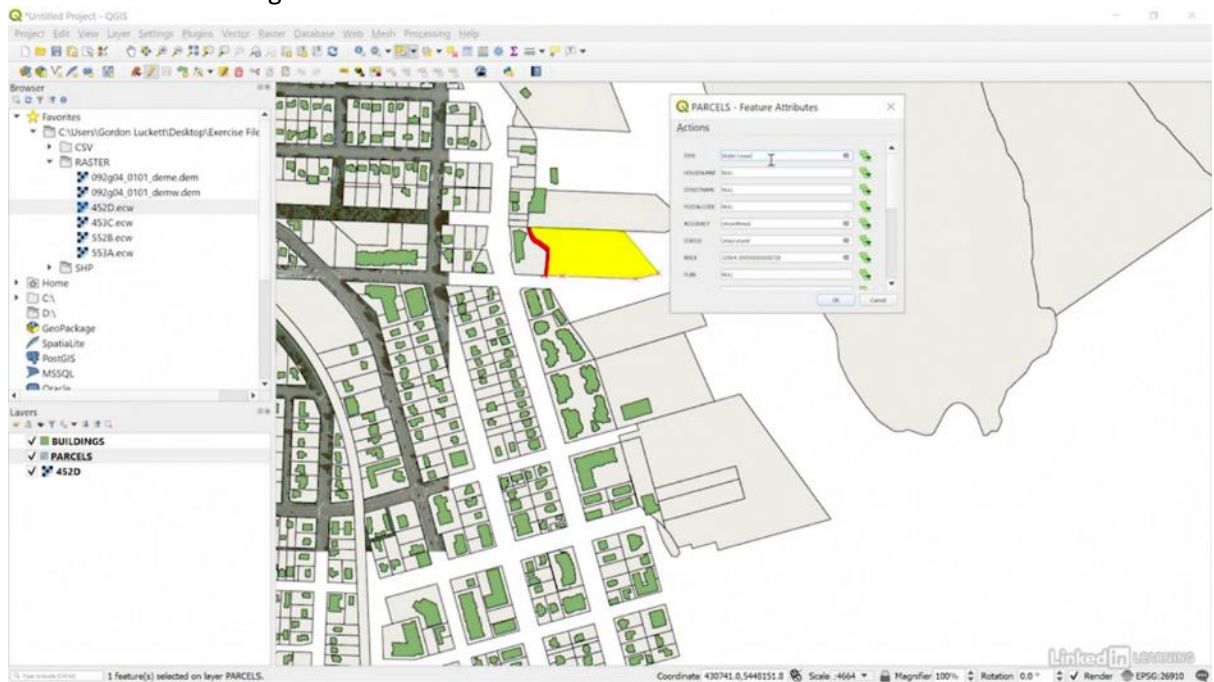
- Editing objects



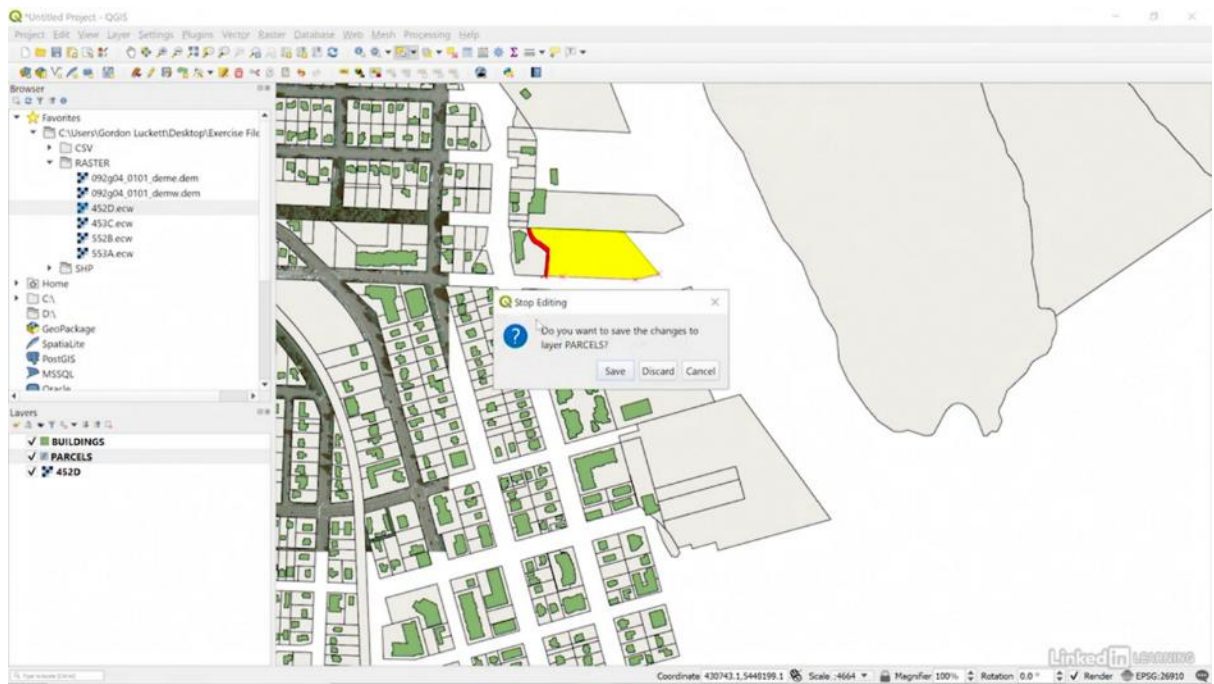
- You can then drag the nodes to edit the shape



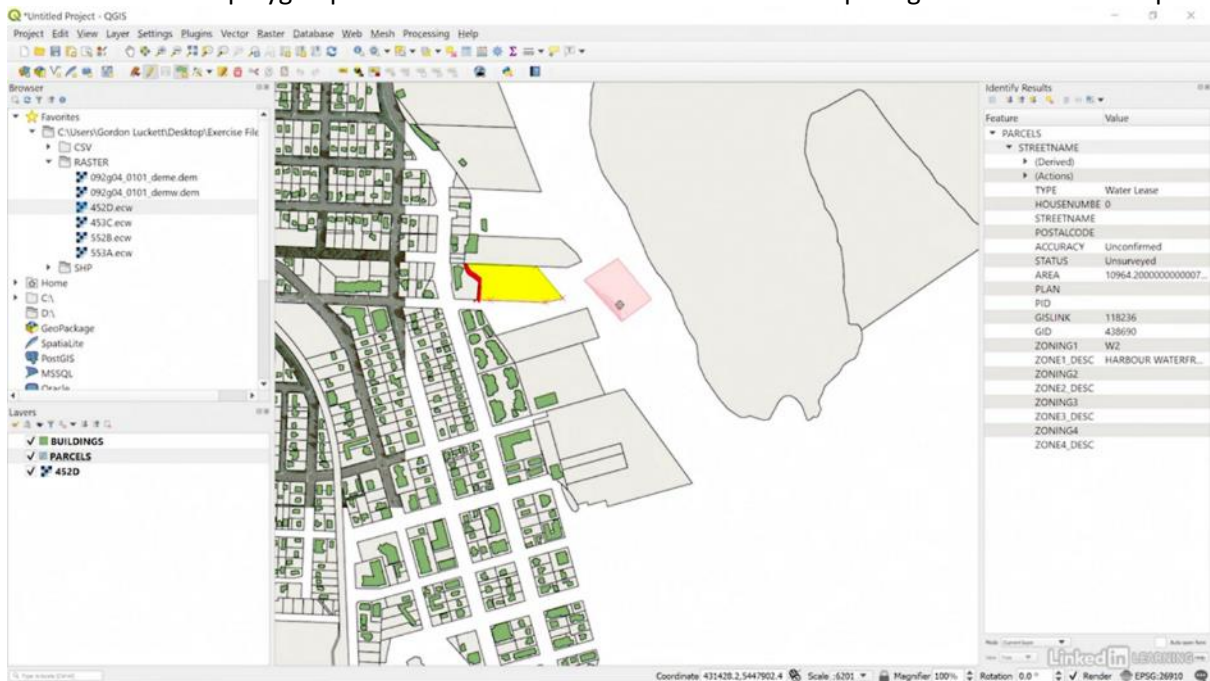
- You can also change the information from the attributes table.



- You can then save the changes by clicking the edit (pencil) tool again where it will prompt you to save your changes



- To draw a polygon please click this tool and then draw the shape -right click to finish shape



The screenshot shows the QGIS desktop application interface. The main map area displays a city street grid with a yellow highlighted parcel. The 'PARCELS - Feature Attributes' dialog is open, showing a table of attributes for the selected parcel. The 'Identify Results' panel on the right shows the attribute table for the selected feature.

PARCELS - Feature Attributes

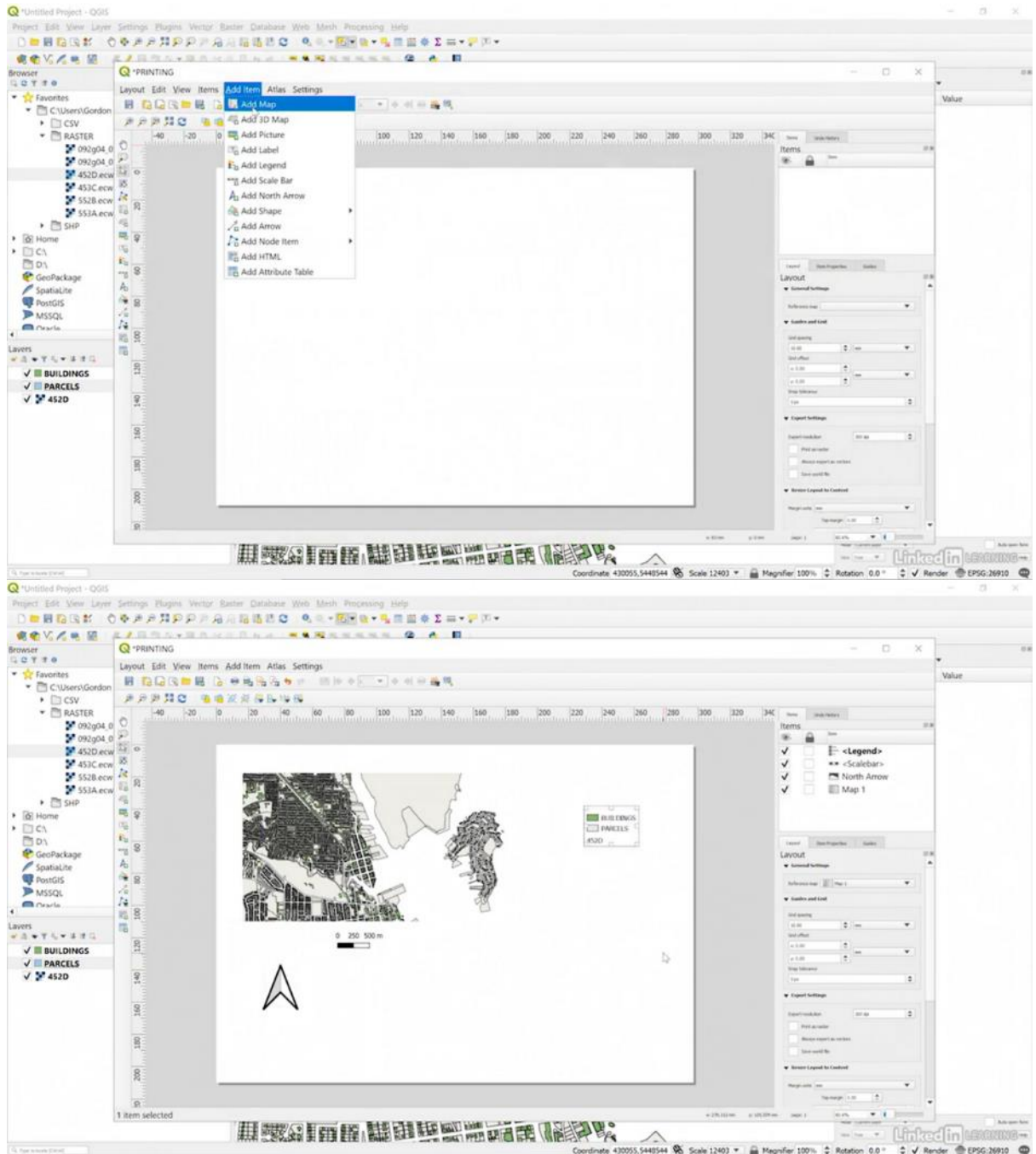
Field	Value
PARC	100.0
ADDRESS	100.0
STREETNAME	100.0
HOUSENUMBE	100.0
ACCURACY	100.0
STATUS	100.0
AREA	100.0
PLAN	100.0
PID	100.0
GISLINK	118236
GID	438690
ZONING1	W2
ZONING1_DESC	HARBOUR WATERFR...
ZONING2	
ZONING2_DESC	
ZONING3	
ZONING3_DESC	
ZONING4	
ZONING4_DESC	

Identify Results

Feature	Value
PARCELS	
STREETNAME	(Dunbar)
TYPE	Water Lease
HOUSENUMBE	0
STREETNAME	
POSTALCODE	
ACCURACY	Unconfirmed
STATUS	Unsurveyed
AREA	10964.200000000000007...
PLAN	
PID	
GISLINK	118236
GID	438690
ZONING1	W2
ZONING1_DESC	HARBOUR WATERFR...
ZONING2	
ZONING2_DESC	
ZONING3	
ZONING3_DESC	
ZONING4	
ZONING4_DESC	

-
- The screenshot shows the QGIS desktop environment. The 'Project' menu is open, and 'New Print Layout...' is highlighted. The main map area shows a 3D perspective view of a city street grid. The 'Layers' panel on the left lists 'BUILDINGS', 'PARCELS', and '452D'. The 'Identify Results' panel on the right is empty. The status bar at the bottom shows the coordinate system as EPSG:26910.

- add other items such as labels, scale bars, the legend, north arrows and shapes



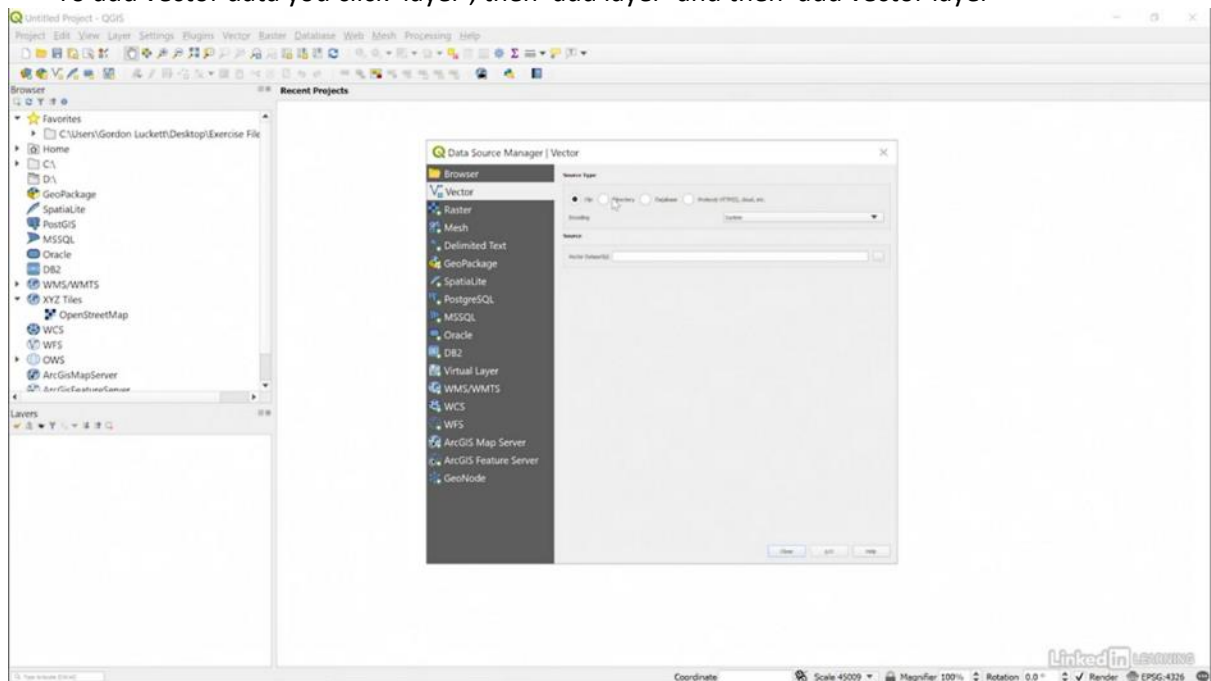
- You can then plot this to whatever file type you require; pdf, adobe illustrator files, dwg
- So you can easily gather data, connect it to a live map with data coordinate system, edit the data and add information behind each shape so it allows you to do more than just make a physical model or flat file

Vector and raster

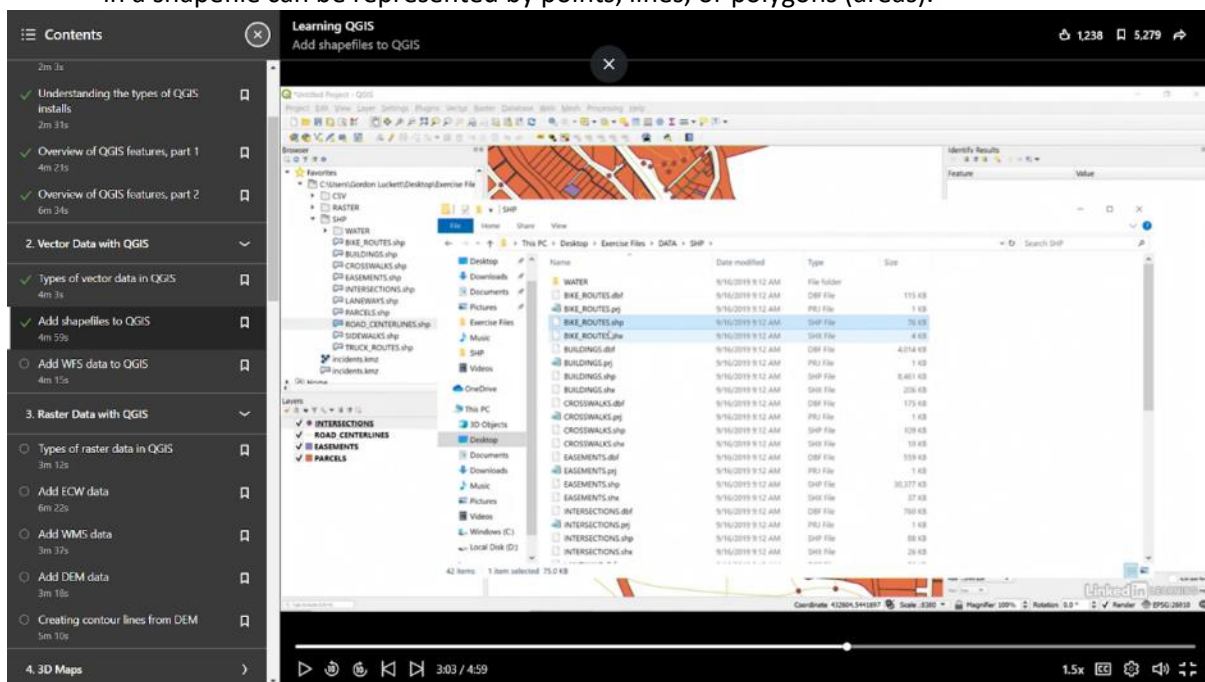
Raster images are made of pixels. ... **Vector** images are mathematical calculations from one point to another that form lines and shapes. If you zoom into a **vector** graphic it will always look the same. A **raster** image has a specific number of pixels.

Source: http://vector-conversions.com/vectorizing/raster_vs_vector.html#:~:text=Pixels%20vs%20Vectors,images%20are%20made%20of%20pixels.&text=Vector%20images%20are%20mathematical%20calculations,a%20specific%20number%20of%20pixels.

- Vector data in QGIS is the points, lines and polygons- bulk of work will be done with this data
- To add vector data you click 'layer', then 'add layer' and then 'add vector layer'



- You can generally just drag and drop data into the workspace however if you are importing from a directory, data base or a protocol (if this data is available for Kochi) then you can do so by clicking 'file' will allow you to add any existing file with vector data that you want to import in
- Shape file: it's a common GIS format. A shapefile is a simple, nontopological format for storing the geometric location and attribute information of geographic features. Geographic features in a shapefile can be represented by points, lines, or polygons (areas).



- Shape files are not one single file, they are made up of other files; .shp (shapefile), .shx (index file, keeps track of the information and sorts them to be viewed faster), .dbf (data base file), .prj (keeps track of the coordinate system-where the information is set in the world) – ALL THESE FILES COME TOGETHER TO PROVIDE THE DATA BEHIND A SHAPEFILE
-
- .shp Shape files can be dragged and dropped in, through the browser or through the 'layer'-'add layer' – and then choosing the shapefile

NOTE: if you save the QGIS project the data added from shapefiles will not be saved as part of the QGIS file- the QGIS file simply keeps track of the colours, how it looks, order of layers and legends and where the files are stored i.e THEY ARE NOT IMPORTED INTO THE FILE THEY JUST POINT TO WHERE THEY ARE AND ARE NOT IMBEDDED(a bit like how indesign files are). Hence if you move/delete the files they will be missing from the project.

- Vector data can be edited in QGIS, raster data cannot
- Raster data is image based, you can't turn layers on and off, it's just a background image
- You can drag and drop the raster data in the same way you add vector data. 'layer'-'add raster later' etc
- Georeferenced raster images allow you to correctly place images based on their geolocation

Projects

The state of your QGIS session is considered a project. QGIS works on one project at a time. Settings are considered as being either per-project or as a default for new projects (see section [Options](#)). QGIS can save the state of your workspace into a project file using the menu options **Project**

►  **Save** or **Project** ►  **Save As...**

Load saved projects into a QGIS session using **Project** ►  **Open...**, **Project** ► **New from template** or **Project** ► **Open Recent** ►.

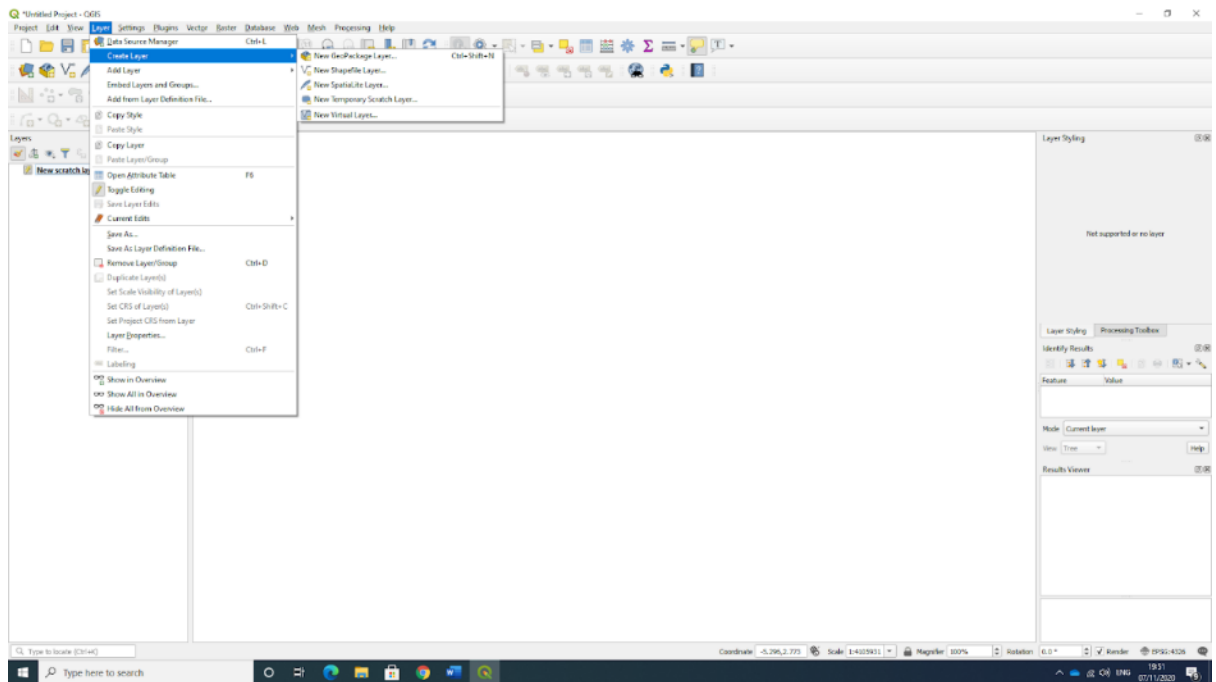
If you wish to clear your session and start fresh, choose **Project** ►  **New**. Either of these menu options will prompt you to save the existing project if changes have been made since it was opened or last saved.

The kinds of information saved in a project file include:

- Layers added
- Which layers can be queried
- Layer properties, including symbolization and styles
- Projection for the map view
- Last viewed extent
- Print Composers

Handout 3

- **Creating layer**
Double click on layer – properties



Creating a new GeoPackage layer *gpkg

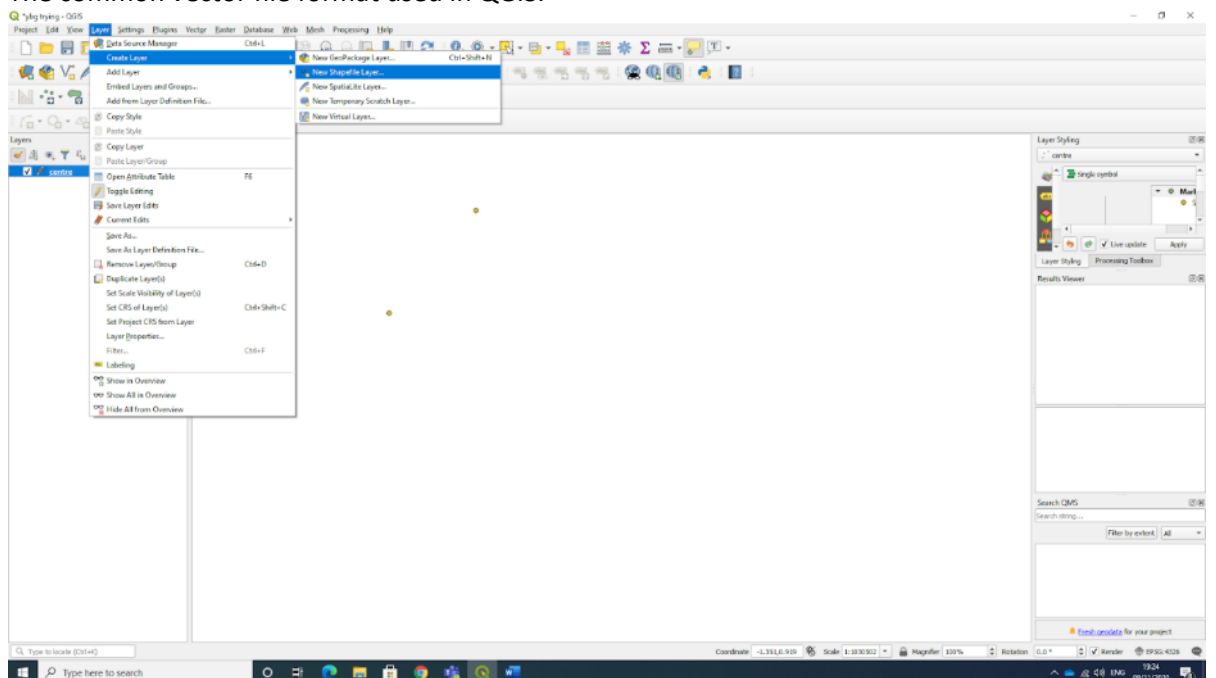
Creating a new Shapefile layer *shp

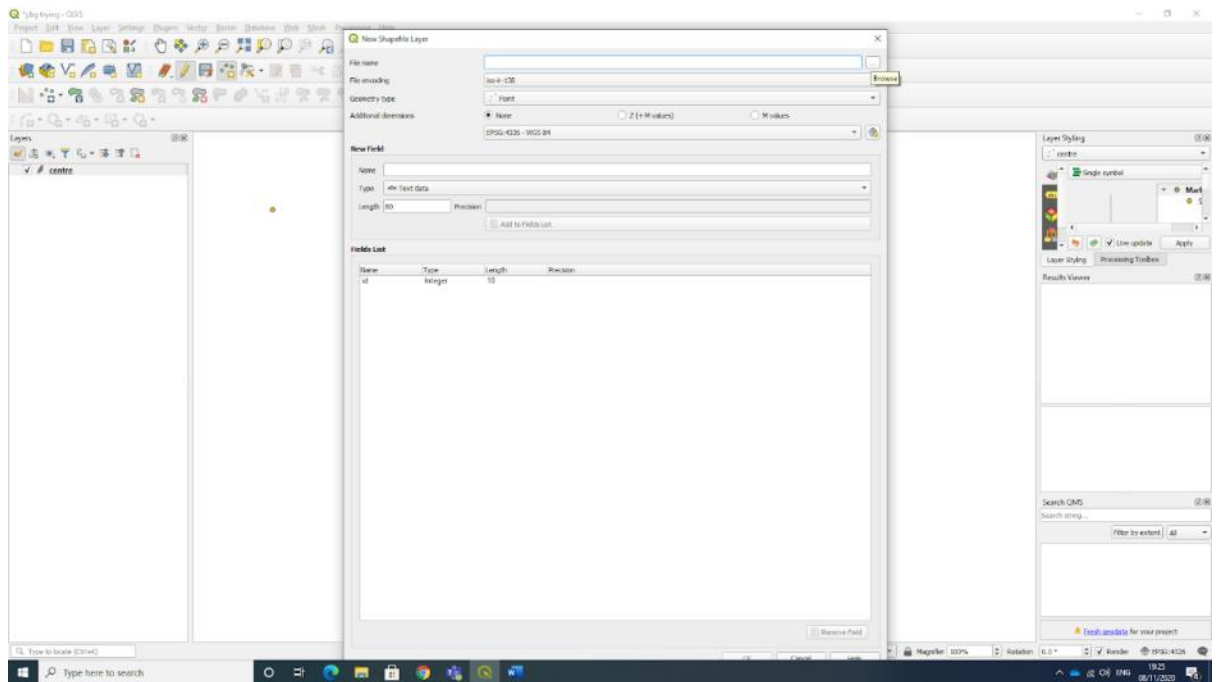
Point

Line

Polygon

The common vector file format used in QGIS.





Creating a new Spatialite layer *sqlite *db

Creating a new GPX layer

Creating a new Temporary Scratch Layer

Temporary Scratch Layers are in-memory layers. They will not be saved on disk and will be discarded if you close QGIS.

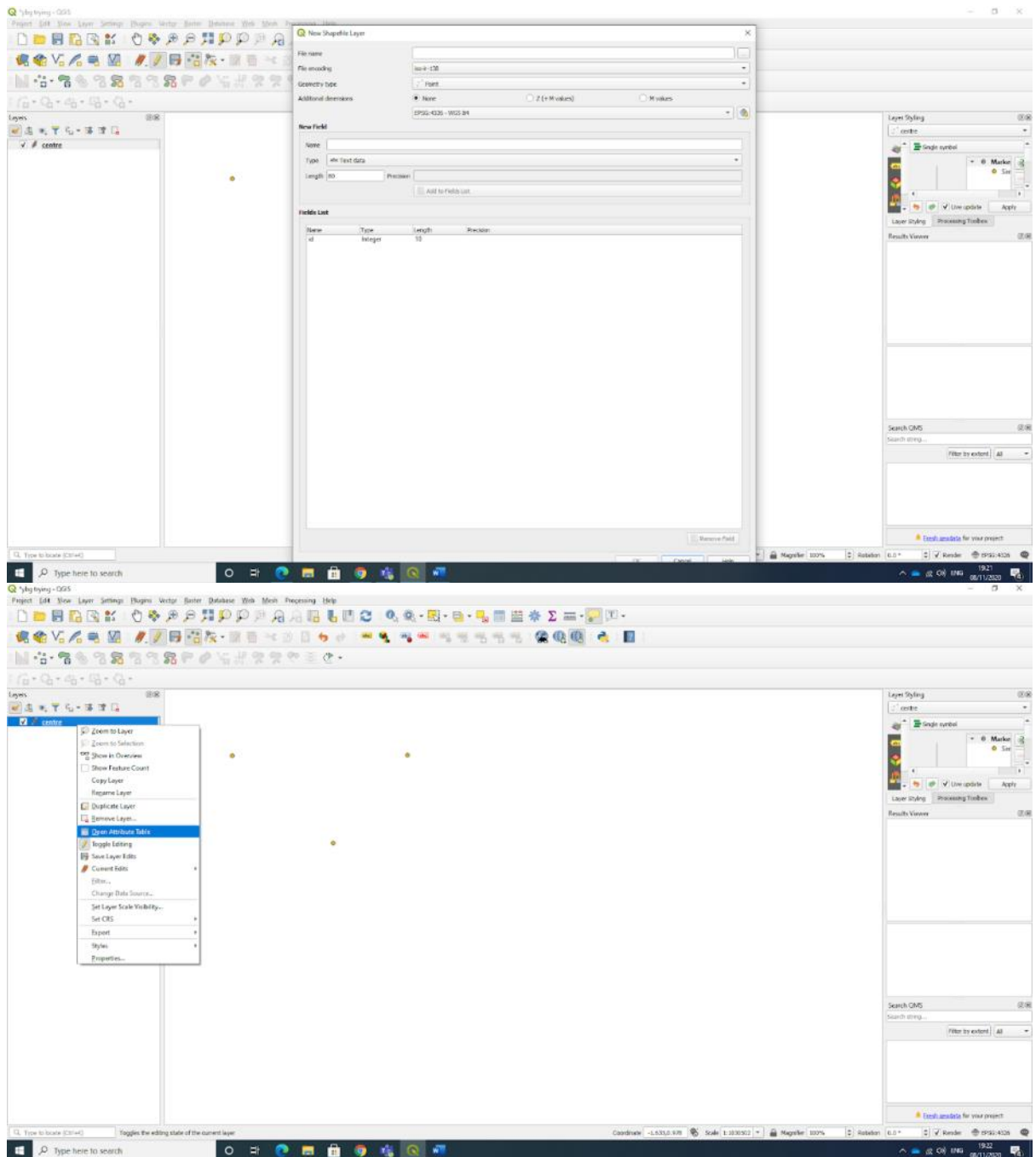
Useful links

<https://www.youtube.com/watch?v=NDFgP7msjP4&list=PLRX2BODKw9OjbfNYTDKU-mUOzoeDdJpwsI&index=1>

<https://www.youtube.com/watch?v=ztrsJJCLaJo>

<https://www.youtube.com/watch?v=LWQlysFRqrA>

Showing new field and opening attribute table



<https://www.youtube.com/watch?v=OvCGtT0DE28>

Drawing point line and polygon

Point

Line

Polygon

Useful links

<https://www.youtube.com/watch?v=gM36YI-Jdjs>

Adding layer

Useful links

<https://www.youtube.com/watch?v=zlyX9xQRRhA>

Drawing point line and polygon

Useful links

<https://www.youtube.com/watch?v=KAo9QwpQZ1Y>

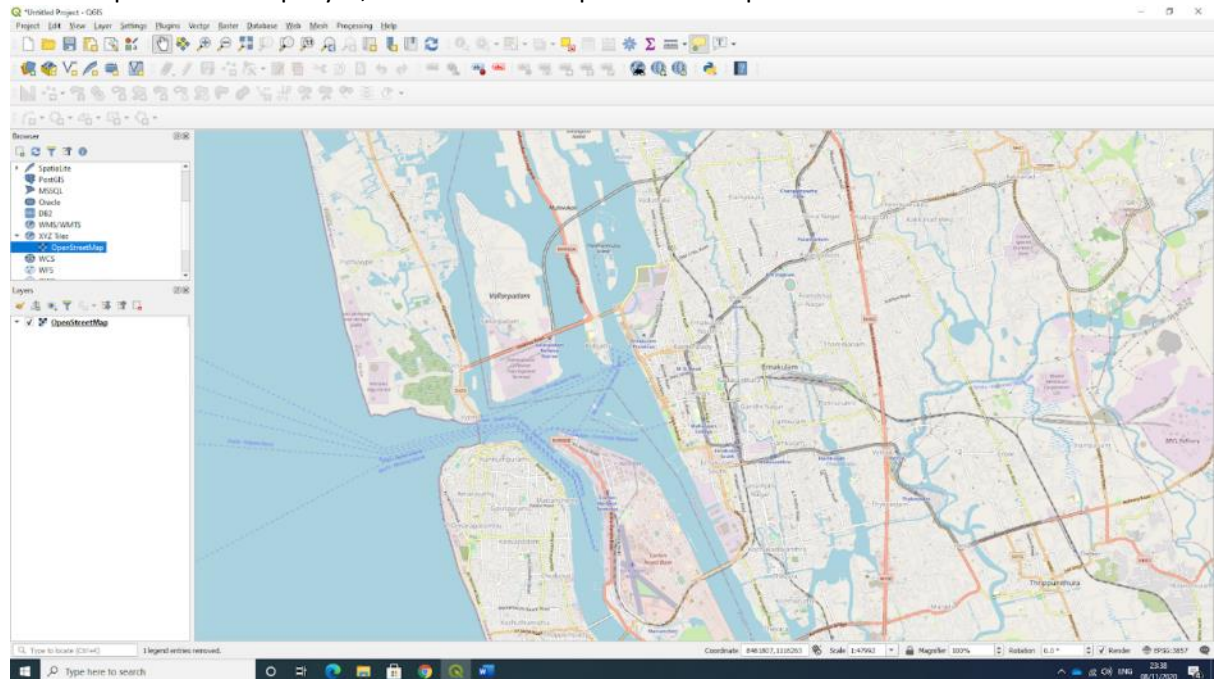
Plug in

<https://gis.stackexchange.com/questions/295097/qgis-3-2-2-openlayers-plugin-isnt-listed-to-install>

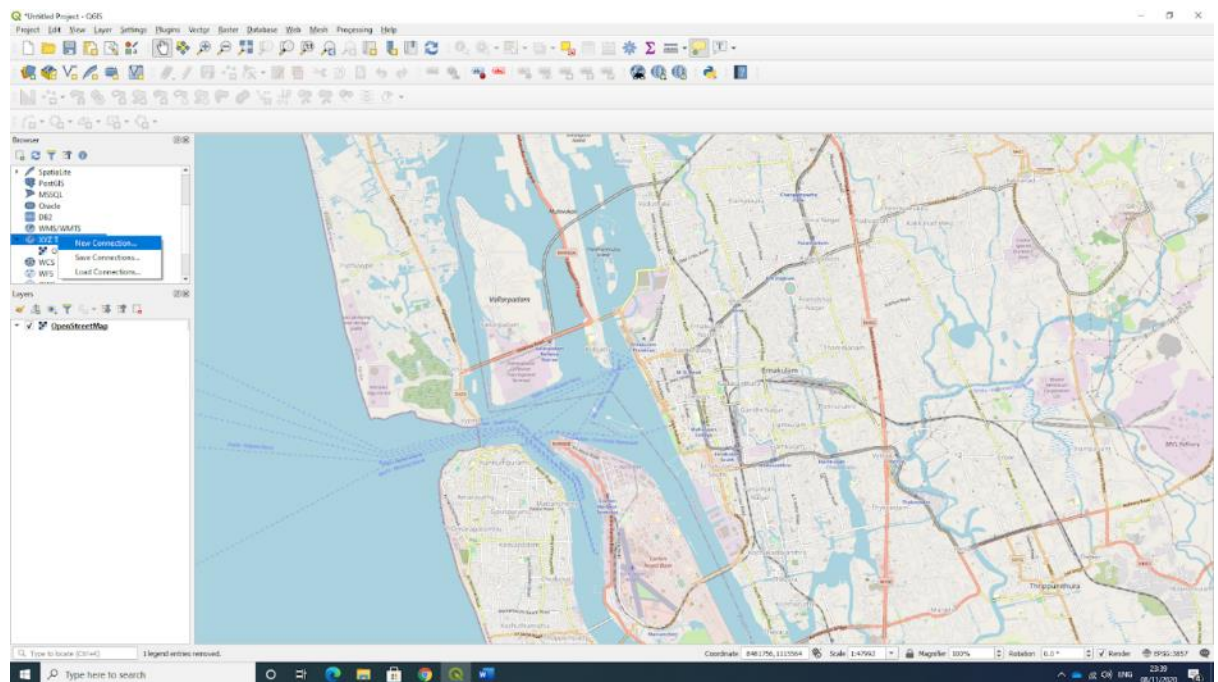
https://plugins.qgis.org/plugins/quick_map_services/

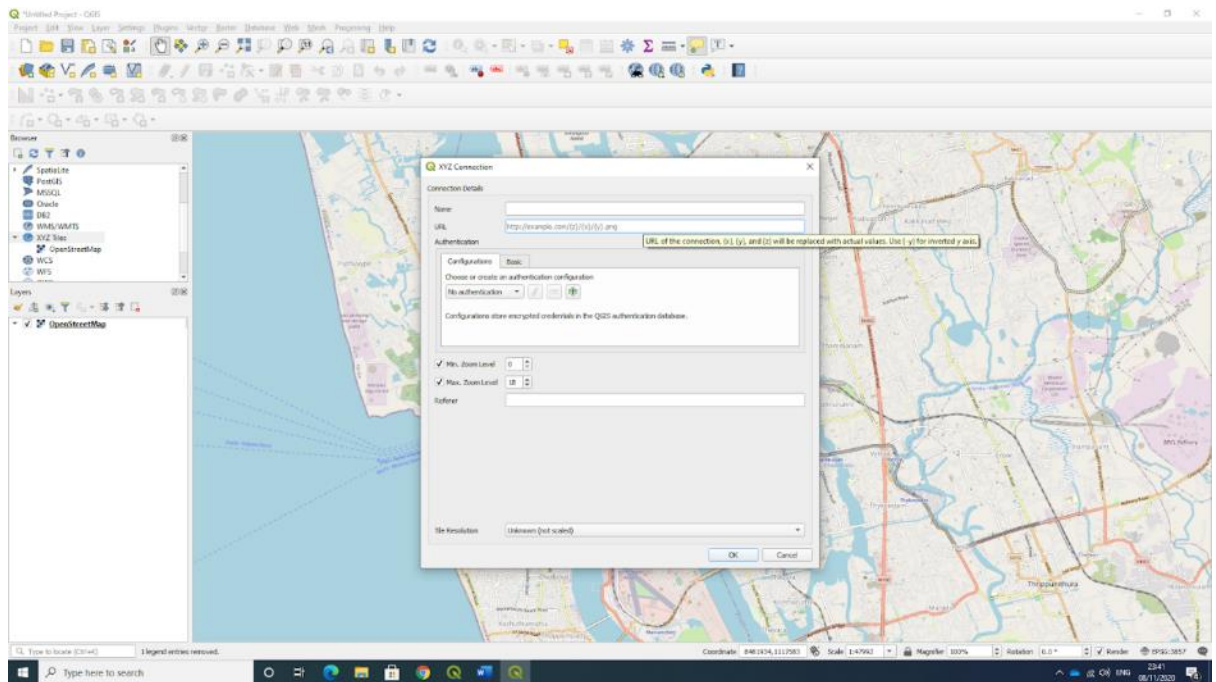
Adding a Google Map/Terrain/Satellite Layer

To add open street map layer, Double click on open street map in browser.



To add other google map layers, click on xyz – new connection. Then use links at link for URL section.





<https://www.youtube.com/watch?v=pXWDxZ3osk8>

<https://www.hatarilabs.com/ih-en/how-to-add-a-google-map-in-qgis-3-tutorial>

https://www.youtube.com/watch?v=M_w8IEADIo0

<https://www.youtube.com/watch?v=67ZruLIgDJs>

Install openlayer plug in

<https://www.youtube.com/watch?v=TvzYAg2Zvek>

Selecting features

<https://www.youtube.com/watch?v=OvCGtT0DE28> (From 1:25 min)

APPENDIX 3: Interview Protocol

Focus of the question	Sub-focus of the question	Opening Questions	Possible Follow-up Probes
I. Participant introduction	Background of participant - Occupation - Duties - Property status	1. What is your occupation?	Do you own or rent your residence?
	Family structure - Number of household member - Characteristics of the family	2. Do you live here with your family?	How many people live in your household? How many people in your family work or study?
II. Everyday life practices	Definition of a typical day - Schedule of the day (Working time, leisure time) - Specific places	3. Can you tell me what you do during the day?	What are your main responsibilities during day? At work and home? How much do you work during the day? What do you do in your free time?
	Interaction with others - Activities - Frequency of gathering - Specific places for that	4. How often do you spend time with your neighbours?	When was the last time you met up with the others on the island? Is there any activity you participate regularly in the island? What types of activities would you do together? Where do you spend most of your time with your neighbours?
	Challenges and opportunities 2018 Kerala flood - Role of Southern Naval Command - Potable water shortage - Transportation	5. What are the difficulties of living on the island? 6. What are the good things about living here?	What has changed on your life after the 2018 Kerala flood? How is the island's potable water need provided? What could be solutions to the problems? How did Southern Naval Command help the islanders after the Floods?
	Relationship with mainland - Reasons for going to mainland - Changes in transportation habits	7. How often do you leave the island?	Why do you go to the mainland? Where do you go for shopping? How do you provide your transportation? How long does it take to get to the nearest hospital?
III. Production of space	History on the island Time spent on the island	8. Do you know history of the island?	Were you born here? How long have you been here?

	Relatives of participant		When / why your family or early relatives come to this island? Do you remember any event related to the history of the island?
	Plot name Story behind it	9. What is your plot name and do you know the meaning of that?	Have you heard anything from your grandparents about the plot name? Why was it given this particular name? Do you know who named the place?
	Land Transformation - Difference between Farmlands and residential plots - Water and land areas	10. Is your residential plot sufficient for the house you and your family live in?	Do you know anyone who has recently converted agricultural land into a residential area? Is the water within the boundaries of the island more or less than the land when compared to the past? Why/How did this transformation happen?
	Effects of the transformation - Number of Private/Public buildings - Construction - Coastal Regulation Zone Rules	11. How does the increase in the amount of land affect your life on the island?	Have there been any changes in the number of houses on the island lately? Has there been any construction recently for public use? Do you know anything about Coastal Regulation Zone? Is there any restriction to build home on the island?
	Appropriation of space Changes and reasons of that	12. Did you make any change in your house since it was first built?	What was taken into consideration in the construction of the house? How long have you been living in this house? If it is same, why did you leave it like that? If you have made a change, why did you need it?

APPENDIX 4: Ethical approval form

12/04/22

Dear Yagmur Gunes

Research project title: Research on everyday life and transformation of natural land formations in the backwaters of Kochi

SREC reference: 2220

The Welsh School of Architecture's Research Ethics Committee ('Committee') reviewed the above application via its proportionate review process.

Ethical Opinion

The Committee gave

- A a favourable ethical opinion of the above application on the basis described in the application form, protocol and supporting documentation.

Additional approvals

This letter provides an ethical opinion only. You must not start your research project until all appropriate approvals are in place.

Amendments

Any substantial amendments to documents previously reviewed by the Committee must be submitted to the Committee via ARCHI-ethics@cardiff.ac.uk for consideration and cannot be implemented until the Committee has confirmed it is satisfied with the proposed amendments.

You are permitted to implement non-substantial amendments to the documents previously reviewed by the Committee but you must provide a copy of any updated documents to the Committee via ARCHI-ethics@cardiff.ac.uk for its records.

Monitoring requirements

The Committee must be informed of any unexpected ethical issues or unexpected adverse events that arise during the research project.

The Committee must be informed when your research project has ended. This notification should be made to ARCHI-ethics@cardiff.ac.uk within three months of research project completion. For Student projects, submission of the associated dissertation will be considered to be notification.

Documents reviewed by Committee

The documents reviewed by the Committee were:

Document	Version	Date
Participant Information Sheet.doc	1	30/03/2022
Research integrity.pdf	1	16/11/2021
Template for Oral History Interviews in Kochi	1	No date

[Version 00]

[Date 07/01/2021]

Yagmur - WSA_Ethics-Review-Application-Proforma_2021 (1) (1).pdf	1	11/04/2022
Yagmur- WSA_Ethics-Template-Consent-Form_2021.doc	1	30/03/2022

Complaints/Appeals

If you are dissatisfied with the decision made by the Committee, please contact the Chair of the Committee via ARCHI-ethics@cardiff.ac.uk in the first instance to discuss your complaint. If this discussion does not resolve the issue, you are entitled to refer the matter to the Head of School for further consideration. The Head of School may refer the matter to the University Open Research Integrity and Ethics Committee (ORIEC), where this is appropriate. Please be advised that ORIEC will not normally interfere with a decision of the Committee and is concerned only with the general principles of natural justice, reasonableness and fairness of the decision.

Please use the Committee reference number on all future correspondence.

The Committee reminds you that it is your responsibility to conduct your research project to the highest ethical standards and to keep all ethical issues arising from your research project under regular review.

You are expected to comply with Cardiff University's policies, procedures and guidance at all times, including, but not limited to, its [Policy on the Ethical Conduct of Research involving Human Participants](#), Human Material or Human Data and our Research Integrity and Governance Code of Practice.

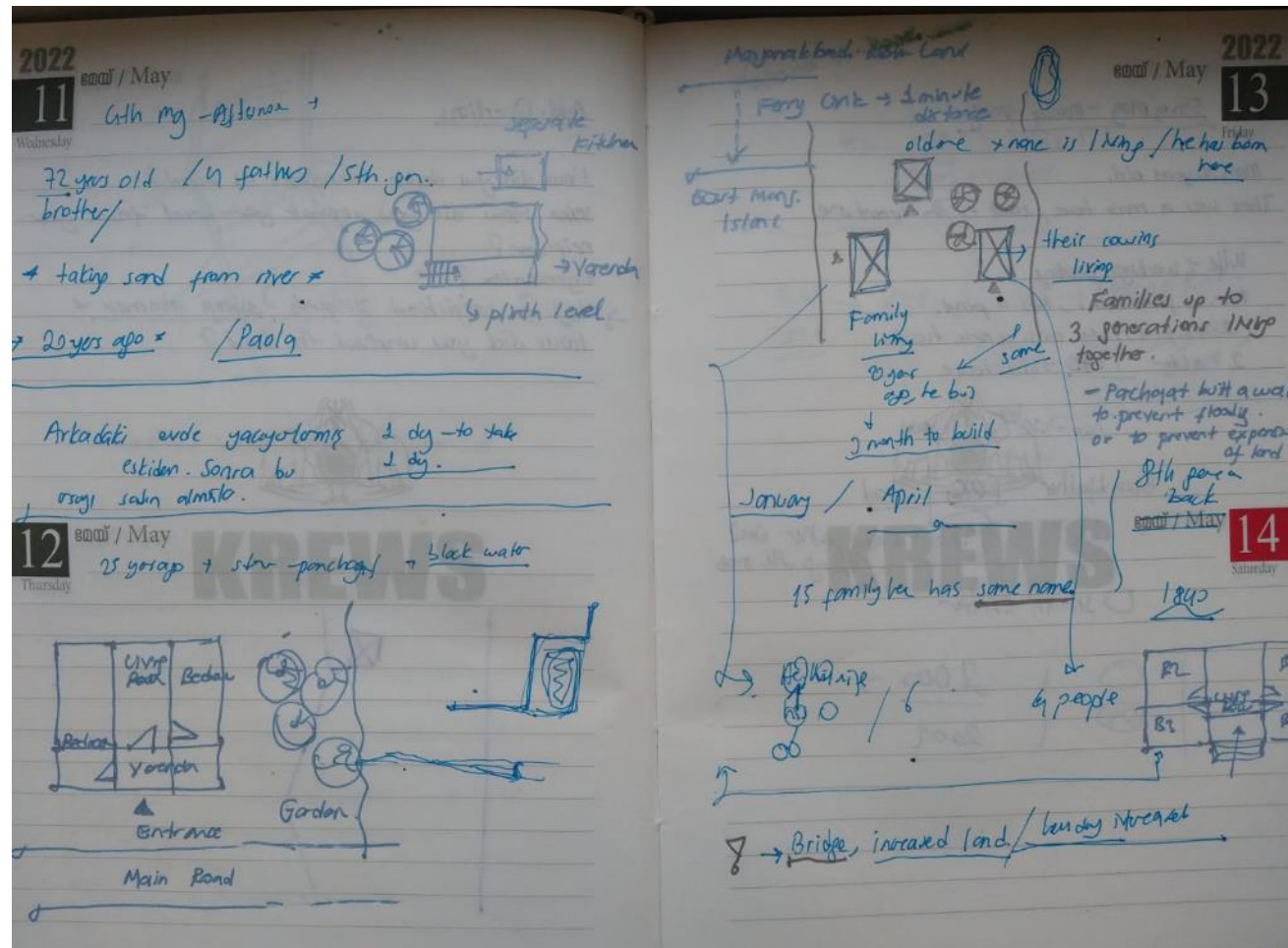
Yours sincerely,



[Version 00]

[Date 07/01/2021]

APPENDIX 5: Example of fieldnotes



APPENDIX 6: House names.

Island name	Fieldwork		Basic Tax Register	
	Latin alphabet	Malayalam version	Latin alphabet	Malayalam version
Cheriya Kadamakudy	Avitam palli	അവിട്ടം പള്ളി	Avittampilly	അവിട്ടമ്പിള്ളി
	Edakkattuparambil	എടക്കാട്ടുപറമ്പിൽ	Edakkattuparambil	എടക്കാട്ടുപറമ്പിൽ
	Era thara	ഇറ തറ	Earathara	ഈറത്തറ
	Kalacha muri	കലച്ച മുറി	-	-
	Karikashery	കാരിക്കശ്ശേരി	Karakkasheri	കാറക്കശ്ശേരി
	Mapilasheery	മാപ്പിളശേരി	Mappilasheri	മാപ്പിളശേരി
	Mapleshery	മാപ്പശേരി	Mappilasheri	മാപ്പിളശേരി
	Madathiparambil	മടത്തിപ്പറമ്പിൽ	Madathiparambil	മടത്തിപ്പറമ്പിൽ
	Padanakkal	പടനക്കൽ	-	-
	Panakkarth	പനക്കരത്ത്	-	-
	Pashniparambil	പഷ്ണിപ്പറമ്പിൽ	Pashniparambil	പഷ്ണിപ്പറമ്പിൽ
	Puliyaparambil	പുളിയപ്പറമ്പിൽ	Puliyaparambil	പുളിയൻപറമ്പിൽ
	Thundathil	തൂണ്ടത്തിൽ	Thundathil	തൂണ്ടത്തിൽ
	Valiyaparambil	വലിയപ്പറമ്പിൽ	-	-
	Vadi kattu	വാടി കാട്ടു	Varikkattu	വരിക്കാട്ട്
East Manjanakkad	Aduvakkparambil	അടുവക്കുപറമ്പിൽ	-	-
	Choolakkal	ചൂളക്കൽ	-	-
	Kaithavalapil	കൈതവളപ്പിൽ	Kaithavalappil	കൈതവളപ്പിൽ
	Kaithavalapu	കൈതവളപ്പ്	Kaithavalappil	കൈതവളപ്പിൽ
	Madaplathurithil	മടപ്പാത്തൂരിത്തിൽ	Madaplathuruth	മടപ്പാത്തൂരുത്ത്
	Marangattuthara	മരങ്ങാട്ടുതറ	Marangattuthara	മരങ്ങാട്ടുതറ
	Muringanathu	മുറിങ്ങനാട്ട്	-	-
	Padathumthara	പാടത്തുംതറ	-	-
	Thundiparambil	തൂണ്ടിപ്പറമ്പിൽ	Thundiparambil	തൂണ്ടിപ്പറമ്പിൽ

APPENDIX 7: Expected increase in water level in Kochi

(Source: The data was obtained from the NASA Sea Level Projection Tool and has been tabulated by the author).

Rise in sea level (m)	2020	2030	2040	2050	2060	2070	2080	2090	2100	2110	2120	2130	2140	2150
SSP1-1.9	0.06	0.11	0.15	0.19	0.23	0.27	0.32	0.36	0.40	0.44	0.48	0.52	0.56	0.60
SSP1-2.6	0.05	0.10	0.14	0.20	0.24	0.30	0.35	0.40	0.45	0.52	0.57	0.62	0.67	0.72
SSP2-4.5	0.06	0.10	0.15	0.22	0.28	0.35	0.42	0.50	0.58	0.66	0.74	0.82	0.89	0.97
SSP3-7.0	0.06	0.11	0.16	0.23	0.30	0.39	0.48	0.59	0.71	0.80	0.91	1.02	1.14	1.24
SSP5-8.5	0.05	0.11	0.17	0.25	0.33	0.43	0.54	0.67	0.82	0.92	1.05	1.18	1.30	1.42
SSP1-2.6	0.05	0.10	0.15	0.21	0.26	0.31	0.37	0.42	0.47	0.54	0.60	0.66	0.72	0.78
SSP5-8.5	0.06	0.11	0.17	0.26	0.34	0.46	0.59	0.76	0.95	1.13	1.34	1.58	1.84	2.13

APPENDIX 8: Participant Information Sheet in English



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PARTICIPANT INFORMATION SHEET

RESEARCH ON EVERYDAY LIFE AND TRANSFORMATION OF NATURAL LAND FORMATIONS IN THE BACKWATERS OF KOCHI

You are being invited to take part in a research project. Before you decide whether or not to take part, it is important for you to understand why the research is being undertaken and what it will involve. Please take a moment to read the following information carefully to make the decision on your participation. If you need any further information or clarification, please do not hesitate to contact us.

PhD Researcher / Student: Yagmur Burcu Gunes



Supervisor: Dr Shibu Raman



Thank you for reading this.

Note: The research is carried out with the support of Centre for Heritage, Environment and Development (c-hed), Research & Development wing of the Kochi Municipal Corporation. The findings of the study will be shared with Cochin Corporation and GCDA.

1. What is the purpose of this research project?

Aim of the research is to understand daily life and map the land transformation in Cheriya Kadamakudy / Manjanakkadu island. The study also wishes to understand the expectations and needs of the participants regarding the environment in which they live.

2. Why have I been invited to take part?

You have been invited because you spend most of your time in Cheriya Kadamakudy or Manjanakkadu island and/or reside in one of these islands.

3. Do I have to take part?

No, your participation in this research project is entirely voluntary and it is up to you to decide whether or not to take part. If you decide to take part, you will be given this Participant Information and a Consent Form to sign and you will be given a copy to keep.

If you decide not to take part, you do not have to explain your reasons and it will not affect your legal rights. You are free to withdraw your consent to participate in the research project at any time, without giving a reason, even after signing the consent form.

4. What will happen to me if I take part?

If you decide to take part, you will be asked to text 'YES' to [Indian mobile phone number]. We will contact you to arrange an appointment according to your availability for a researcher to visit you in the island and find a convenient time period to minimise interruptions to your daily routines. We will ask you to sign consent form before we begin research.

Involvement in this study will be over a period of 2 days, from 16th of April 2022 – 11th of May 2022, during which time the researcher is likely to visit you and spend time in the island observing normal daily routines. The research consists of two main parts including observation and interview.

- In the interview, we will be interested in finding about your routines and habits throughout the day on the island. Interview will cover topics such as your daily life habits, your job, how you spend your time, your transportation preferences, the places you use in the island and mapping of these places. It will last

[Version 00]

[Date 30/03/2022]

approximately 45-50 minutes. Researcher will make audio recording by using a Dictaphone. All records from these interviews will be made anonymous.

- There will be an observation, intermittently, for under 2 sessions including morning and afternoon. The researcher will take notes of what she has observed and will try to understand the life on the island by asking questions without interrupting you while making observation. Our observations will help us understand how you use the island, how you produce your own spaces, and the impact your decisions on the production of spaces. During observation photo or video recording can be made after taking your permission.

If you have any question before or during the observation and interview you can ask the researcher. If you want them to stop observing or interviewing you can ask them to do so at any time. If you do not want to take part in this part of the study you can tell the researcher before or during the observation and they will not include you. The researcher will be happy to answer any questions you have about the research. Please do not hesitate to ask.

5. Will I be paid for taking part?

There is no payment for your participation. The data obtained from you will not be used by researchers for commercial purposes.

6. What are the possible benefits of taking part?

You will receive no direct benefit from taking part in this study. However, the information collected during this research will give us a better understanding of participant's expectations, needs about their environments and give a chance to bring the problems on the island to the agenda. The findings from this research will be shared with civic authorities such as Cochin Corporation and GCDA.

7. What are the possible risks of taking part?

There are no foreseen disadvantages or risks of taking part in this research.

8. Will my taking part in this research project be kept confidential?

All information collected from (or about) you during the research project will be kept confidential and any personal information you provide will be managed in accordance with data protection legislation. Please see 'What will happen to my Personal Data?' (below) for further information.

The photo or audio/video recordings of your activities made during this research will be used only for analysis. No other use will be made of them without your written permission, and no one outside the research will be allowed access to the original recording.

9. What will happen to my Personal Data?

Cardiff University is the Data Controller and is committed to respecting and protecting your personal data in accordance with your expectations and Data Protection legislation. Further information about Data Protection, including:

- your rights
- the legal basis under which Cardiff University processes your personal data for research
- Cardiff University's Data Protection Policy
- how to contact the Cardiff University Data Protection Officer
- how to contact the Information Commissioner's Office

may be found at <https://www.cardiff.ac.uk/public-information/policies-and-procedures/data-protection>

After end of the research, the research team will anonymise all the personal data it has collected from, or about, you in connection with this research project, with the exception of your consent form. Your consent form will be retained until kept until shortly after graduation (2024) and may be accessed by members of the research team and, where necessary, by members of the University's governance and audit teams or by regulatory authorities. Anonymised information will be kept for a minimum of two years but may be published in support of the research project and/or retained indefinitely, where it is likely to have continuing value for research purposes.

You are free to withdraw from the study at any time, without giving a reason. However, it will not be possible to withdraw any anonymised data that has already been published or in some cases, where identifiers are irreversibly removed during the course of a research project, from the point at which it has been anonymised.

10. What happens to the data at the end of the research project?

All data- observational notes, interview transcripts and recordings – collected from you during the research will be kept strictly confidential and stored securely. You will be identified by an ID number and any information about you will have your name and address removed so that you cannot be recognised from it. No one outside the research will be allowed access to the original recording.

11. What will happen to the results of the research project?

We expect to publish the results of the research in a scientific journal and present findings at conference and we may use short excerpts of what you say to illustrate the findings. However, we will not publish any details that identify you personally.

12. What if there is a problem?

If you wish to complain or have grounds for concerns about any aspect of the manner in which you have been approached or treated during the course of this research, please contact Yagmur Burcu Gunes who will do their best to answer your questions. If your complaint is not managed to your satisfaction,

[REDACTED] the School Research Ethics Committee on +44 [REDACTED]

If you are harmed by taking part in this research project, there are no special compensation arrangements. If you are harmed due to someone's negligence, you may have grounds for legal action, but you may have to pay for it.

13. Who is organising and funding this research project?

The research is organised by PhD student Yagmur Burcu Gunes at Welsh School of Architecture in Cardiff University under the Supervision of Dr Shibu Raman. The research is being conducted by Yagmur Burcu Gunes with support of local researcher from Kochi namely Ancy and Varuna C V. The research is currently funded by Republic of Turkey, Ministry of National Education.

14. Who has reviewed this research project?

This research project has been reviewed and given a favourable opinion by the Welsh School of Architecture, School Research Ethics Committee (SREC).

Thank you for considering taking part in this research project. If you decide to participate, you will be given a copy of the Participant Information Sheet and a signed consent form to keep for your records.

APPENDIX 9: Participant Information Sheet in Malayalam



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പങ്കെടുക്കുന്നവരുടെ വിവര ഷീറ്റ്

കൊച്ചിയുടെ കായലിലെ പ്രകൃതിദത്ത ഭൂമി രൂപീകരണത്തിന്റെ ദൈനംദിന ജീവിതത്തെയും പരിവർത്തനത്തെയും കുറിച്ചുള്ള ഗവേഷണം

ഒരു ഗവേഷണ പദ്ധതിയിൽ പങ്കെടുക്കാൻ നിങ്ങളെ ക്ഷണിക്കുന്നു. പങ്കെടുക്കണോ വേണ്ടയോ എന്ന് തീരുമാനിക്കുന്നതിന് മുമ്പ്, ഗവേഷണം എന്തിനാണ് ഏറ്റെടുക്കുന്നതെന്നും അതിൽ എന്താണ് ഉൾപ്പെടുകയെന്നും നിങ്ങൾ മനസ്സിലാക്കേണ്ടത് പ്രധാനമാണ്. നിങ്ങളുടെ പങ്കാളിത്തം സംബന്ധിച്ച് തീരുമാനമെടുക്കുന്നതിന് ഇനിപ്പറയുന്ന വിവരങ്ങൾ ശ്രദ്ധാപൂർവ്വം വായിക്കാൻ ഒരു നിമിഷമെടുക്കുക. നിങ്ങൾക്ക് കൂടുതൽ വിവരങ്ങളോ വ്യക്തതയോ വേണമെങ്കിൽ, ഞങ്ങളെ ബന്ധപ്പെടാൻ മടിക്കരുത്.

പിഎച്ച്ഡി ഗവേഷകൻ / വിദ്യാർത്ഥി: Yagmur Burcu Gunes

സുപ്പർവൈസർ: Dr Shibu Raman
ഇമെയിൽ: ramans@cardiff.ac.uk

കുറിപ്പ്: കൊച്ചി മുനിസിപ്പൽ കോർപ്പറേഷന്റെ റിസർച്ച് ആൻഡ് ഡെവലപ്മെന്റ് വിഭാഗമായ സെന്റർ ഫോർ ഹെറിറ്റേജ്, എൻവയോൺമെന്റ് ആൻഡ് ഡെവലപ്മെന്റ് (സി-ഹെഡ്) എന്നിവയുടെ പിന്തുണയോടെയാണ് ഗവേഷണം നടത്തുന്നത്. പഠനത്തിന്റെ കണ്ടെത്തലുകൾ കൊച്ചിൻ കോർപ്പറേഷനുമായും ജിസിഡിഎയുമായും പങ്കിടും.

1. ഈ ഗവേഷണ പദ്ധതിയുടെ ഉദ്ദേശ്യം എന്താണ്?

ചെറിയ കടമക്കുടിമത്തനക്കാട് ദ്വീപിലെ ദൈനംദിന ജീവിതം മനസ്സിലാക്കുകയും ഭൂമിയുടെ പരിവർത്തനം മാപ്പ് ചെയ്യുകയുമാണ് ഗവേഷണത്തിന്റെ ലക്ഷ്യം. അവർ ജീവിക്കുന്ന പരിസ്ഥിതിയെ സംബന്ധിച്ച പങ്കാളികളുടെ പ്രതികരണങ്ങളും ആവശ്യങ്ങളും മനസ്സിലാക്കാനും പഠനം ആഗ്രഹിക്കുന്നു.

2. എന്തുകൊണ്ടാണ് എന്നെ പങ്കെടുക്കാൻ ക്ഷണിച്ചത്?

നിങ്ങൾ കൂടുതൽ സമയവും ചെറിയ കടമക്കുടിയിലോ മത്തനക്കാട് ദ്വീപിലോ ഒപ്പം/അല്ലെങ്കിൽ ഈ ദ്വീപുകളിലൊന്നിൽ താമസിക്കുന്നതിനാലും നിങ്ങളെ ക്ഷണിച്ചു.

3. ഞാൻ പങ്കെടുക്കേണ്ടതുണ്ടോ?

ഇല്ല. ഈ ഗവേഷണ പദ്ധതിയിൽ നിങ്ങളുടെ പങ്കാളിത്തം പൂർണ്ണമായും സ്വമേധയാ ഉള്ളതാണ്, പങ്കെടുക്കണോ വേണ്ടയോ എന്ന് തീരുമാനിക്കേണ്ടത് നിങ്ങളാണ്. നിങ്ങൾ പങ്കെടുക്കാൻ തീരുമാനിക്കുകയാണെങ്കിൽ, നിങ്ങൾക്ക് ഈ പങ്കാളി വിവരവും ഒപ്പിടാൻ ഒരു സമ്മത ഫോമും നൽകും കൂടാതെ സൂക്ഷിക്കാൻ നിങ്ങൾക്ക് ഒരു പകർപ്പ് നൽകും.

പങ്കെടുക്കേണ്ടത് നിങ്ങൾ തീരുമാനിക്കുകയാണെങ്കിൽ, നിങ്ങളുടെ കാരണങ്ങൾ വിശദീകരിക്കേണ്ടതില്ല, അത് നിങ്ങളുടെ നിയമപരമായ അവകാശങ്ങളെ ബാധിക്കുകയുമില്ല. സമ്മതപത്രത്തിൽ ഒപ്പിട്ടതിന് ശേഷവും, കാരണം വ്യക്തമാക്കാതെ, എപ്പോൾ വേണമെങ്കിലും ഗവേഷണ പദ്ധതിയിൽ പങ്കെടുക്കാനുള്ള നിങ്ങളുടെ സമ്മതം പിൻവലിക്കാൻ നിങ്ങൾക്ക് സ്വാതന്ത്ര്യമുണ്ട്.

4. ഞാൻ പങ്കെടുത്താൽ എന്നിക്ക് എന്ത് സംഭവിക്കും?

നിങ്ങൾ പങ്കെടുക്കാൻ തീരുമാനിക്കുകയാണെങ്കിൽ, നിങ്ങളോട് ഇന്ത്യൻ മൊബൈൽ ഫോൺ നമ്പറിലേക്ക് അതെ എന്ന് സന്ദേശമയയ്ക്കാൻ ആവശ്യപ്പെടും. ഒരു ഗവേഷകൻ നിങ്ങളെ ദ്വീപിൽ സന്ദർശിക്കുന്നതിനും നിങ്ങളുടെ ദൈനംദിന ദിനചര്യകൾക്കുള്ള തടസ്സങ്ങൾ കുറയ്ക്കുന്നതിന് സൗകര്യപ്രദമായ സമയം കണ്ടെത്തുന്നതിനും നിങ്ങളുടെ ലഭ്യതയ്ക്കനുസരിച്ച് ഒരു അപ്പോയിന്റ്മെന്റ് ക്രമീകരിക്കുന്നതിന് ഞങ്ങൾ നിങ്ങളെ ബന്ധപ്പെടും. ഞങ്ങൾ ഗവേഷണം ആരംഭിക്കുന്നതിന് മുമ്പ് സമ്മതപത്രത്തിൽ ഒപ്പിടാൻ നിങ്ങളോട് ആവശ്യപ്പെടും.

ഈ പഠനത്തിലെ പങ്കാളിത്തം 2022 ഏപ്രിൽ 16 മുതൽ 2022 മെയ് 11 വരെ 2 ദിവസത്തിലധികമായിരിക്കും. ഈ സമയത്ത് ഗവേഷകൻ നിങ്ങളെ സന്ദർശിക്കാനും സാധാരണ ദിനചര്യകൾ നിരീക്ഷിച്ച് ദ്വീപിൽ സമയം ചെലവഴിക്കാനും സാധ്യതയുണ്ട്. നിരീക്ഷണവും അഭിമുഖവും ഉൾപ്പെടെ രണ്ട് പ്രധാന ഭാഗങ്ങളാണ് ഗവേഷണം.

[Version 00]

[Date 30/03/2022]

അഭിമുഖത്തിൽ, ദുരൂഹമായ വിവരങ്ങൾ മുഴുവൻ നിങ്ങളുടെ ദിനചര്യകളെയും ശീലങ്ങളെയും കുറിച്ച് കണ്ടെത്താൻ ഞങ്ങൾക്ക് താൽപ്പര്യമുണ്ടാകും. നിങ്ങളുടെ ദൈനംദിന ജീവിത ശീലങ്ങൾ, ജോലി, നിങ്ങളുടെ സമയം എങ്ങനെ ചെലവഴിക്കുന്നു, നിങ്ങളുടെ ഗതാഗത മുൻഗണനകൾ, ദുരൂഹമായ നിങ്ങളുടെ ഉപയോഗിക്കുന്ന സ്ഥലങ്ങൾ, ഈ സ്ഥലങ്ങളുടെ മറ്റിംഗ് തുടങ്ങിയ വിഷയങ്ങൾ അഭിമുഖം ഉൾക്കൊള്ളും. ഇത് ഏകദേശം 45-50 മിനിറ്റ് നീണ്ടുനിൽക്കും. ഗവേഷകൻ ഡിക്ടേററർ ഉപയോഗിച്ച് ഓഡിയോ റെക്കോർഡിംഗ് നടത്തും. ഈ അഭിമുഖങ്ങളിൽ നിന്നുള്ള എല്ലാ റെക്കോർഡുകളും അജ്ഞാതമാക്കും.

രാവിലെയും വൈകുന്നേരവും ഉൾപ്പെടെ 2 സെഷനുകളിൽ ഇടയ്ക്കിടെ ഒരു നിരീക്ഷണം ഉണ്ടായിരിക്കും. ഗവേഷകൻ അവർ നിരീക്ഷിച്ചതിന്റെ കൂറപ്പകൾ എടുക്കുകയും നിരീക്ഷണം നടത്തുമ്പോൾ നിങ്ങളെ തടസ്സപ്പെടുത്താതെ ചോദ്യങ്ങൾ ചോദിച്ച് ദുരൂഹമായ ജീവിതം മനസ്സിലാക്കാൻ ശ്രമിക്കുകയും ചെയ്യും. നിങ്ങൾ ദുരൂഹം എങ്ങനെ ഉപയോഗിക്കുന്നുവെന്നും നിങ്ങളുടെ സ്വന്തം ഇടങ്ങൾ എങ്ങനെ നിർമ്മിക്കുന്നുവെന്നും സ്പെയ്സുകളുടെ ഉൽപാദനത്തിൽ നിങ്ങളുടെ തീരുമാനങ്ങളെ സ്വാധീനിക്കുന്നതിനെക്കുറിച്ചും ഞങ്ങളുടെ നിരീക്ഷണങ്ങൾ ഞങ്ങളെ സഹായിക്കും. നിരീക്ഷണ വേളയിൽ നിങ്ങളുടെ അനുവാദം വാങ്ങിയ ശേഷം ഫോട്ടോ അല്ലെങ്കിൽ വീഡിയോ റെക്കോർഡിംഗ് നടത്താം.

നിരീക്ഷണത്തിനും അഭിമുഖത്തിനും മുമ്പോ ശേഷമോ നിങ്ങൾക്ക് എന്തെങ്കിലും ചോദ്യങ്ങളുണ്ടെങ്കിൽ ഗവേഷകനോട് ചോദിക്കാം. അവർ നിരീക്ഷിക്കുന്നതോ അഭിമുഖം നടത്തുന്നതോ നിർത്താൻ നിങ്ങൾ ആഗ്രഹിക്കുന്നുവെങ്കിൽ, എപ്പോൾ വേണമെങ്കിലും അവരോട് അങ്ങനെ ചെയ്യാൻ ആവശ്യപ്പെടാം. പഠനത്തിന്റെ ഈ ഭാഗത്ത് പങ്കെടുക്കാൻ നിങ്ങൾക്ക് താൽപ്പര്യമില്ലെങ്കിൽ, നിരീക്ഷണത്തിന് മുമ്പോ സമയത്തോ നിങ്ങൾക്ക് ഗവേഷകനോട് പറയാവുന്നതാണ്, അവർ നിങ്ങളെ ഉൾപ്പെടുത്തില്ല. ഗവേഷണത്തെക്കുറിച്ച് നിങ്ങൾക്ക് എന്തെങ്കിലും ചോദ്യങ്ങൾക്ക് ഉത്തരം നൽകാൻ ഗവേഷകൻ സന്തോഷമുണ്ട്. ദയവായി ചോദിക്കാൻ മടിക്കരുത്.

5. പങ്കെടുത്തതിന് എനിക്ക് പ്രതിഫലം ലഭിക്കുമോ?

നിങ്ങളുടെ പങ്കാളിത്തത്തിന് പേയ്മെന്റ് ഇല്ല. നിങ്ങളിൽ നിന്ന് ലഭിച്ച ഡാറ്റ വാണിജ്യ ആവശ്യങ്ങൾക്കായി ഗവേഷകർ ഉപയോഗിക്കില്ല.

6. പങ്കെടുക്കുന്നതിന്റെ പ്രയോജനങ്ങൾ എന്തൊക്കെയാണ്?

ഈ പഠനത്തിൽ പങ്കെടുക്കുന്നതിൽ നിന്ന് നിങ്ങൾക്ക് നേരിട്ട് യാതൊരു പ്രയോജനവും ലഭിക്കില്ല. എന്നിരുന്നാലും, ഈ ഗവേഷണ വേളയിൽ ശേഖരിക്കുന്ന വിവരങ്ങൾ, പങ്കാളിയുടെ പ്രതീക്ഷകൾ, അവരുടെ ചുറ്റുപാടുകളെക്കുറിച്ചുള്ള ആവശ്യങ്ങൾ എന്നിവയെക്കുറിച്ച് നന്നായി മനസ്സിലാക്കുകയും ദുരൂഹമായ പ്രശ്നങ്ങൾ അങ്ങനെയിലേക്ക് കൊണ്ടുവരാൻ അവസരം നൽകുകയും ചെയ്യും. ഈ ഗവേഷണത്തിൽ നിന്നുള്ള കണ്ടെത്തലുകൾ കൊച്ചിൻ കോർപ്പറേഷൻ, ജിസിഡിഎ തുടങ്ങിയ പൗര അധികാരികളുമായി പങ്കിടും.

7. പങ്കെടുക്കുന്നതിന്റെ അപകടസാധ്യതകൾ എന്തൊക്കെയാണ്?

ഈ ഗവേഷണത്തിൽ പങ്കെടുക്കുന്നതിന് മുന്നോട്ട് കണ്ട പോരായ്മകളോ അപകടസാധ്യതകളോ ഇല്ല.

8. ഈ ഗവേഷണ പദ്ധതിയിൽ എന്റെ പങ്കാളിത്തം രഹസ്യമായി സൂക്ഷിക്കുമോ?

ഗവേഷണ പ്രോജക്റ്റ് സമയത്ത് നിങ്ങളിൽ നിന്ന് (അല്ലെങ്കിൽ അതിനെ കുറിച്ച്) ശേഖരിക്കുന്ന എല്ലാ വിവരങ്ങളും രഹസ്യമായി സൂക്ഷിക്കുകയും നിങ്ങൾ നൽകുന്ന ഏതൊരു സ്വകാര്യ വിവരവും ഡാറ്റാ പരിരക്ഷണ നിയമനിർമ്മാണത്തിന് അനുസൃതമായി കൈകാര്യം ചെയ്യുകയും ചെയ്യും. കൂടുതൽ വിവരങ്ങൾക്ക് ദയവായി 'എന്റെ സ്വകാര്യ ഡാറ്റയ്ക്ക് എന്ത് സംഭവിക്കും?' (ചുവടെ) കാണുക.

ഈ ഗവേഷണ സമയത്ത് നടത്തിയ നിങ്ങളുടെ പ്രവർത്തനങ്ങളുടെ ഫോട്ടോ അല്ലെങ്കിൽ ഓഡിയോവീഡിയോ റെക്കോർഡിംഗുകൾ വിശകലനത്തിനായി മാത്രമേ ഉപയോഗിക്കൂ. നിങ്ങളുടെ രേഖാമൂലമുള്ള അനുമതിയില്ലാതെ അവയിൽ നിന്ന് മറ്റൊരു ഉപയോഗവും ഉണ്ടാകില്ല. കൂടാതെ ഗവേഷണത്തിന് പുറത്തുള്ള ആർക്കും യഥാർത്ഥ റെക്കോർഡിംഗിലേക്ക് പ്രവേശനം അനുവദിക്കില്ല.

9. എന്റെ സ്വകാര്യ ഡാറ്റയ്ക്ക് എന്ത് സംഭവിക്കും?

കാർഡിഫ് യൂണിവേഴ്സിറ്റി ഡാറ്റാ കൺട്രോളറാണ് കൂടാതെ നിങ്ങളുടെ പ്രതീക്ഷകൾക്കും ഡാറ്റാ പ്രൊട്ടക്ഷൻ നിയമത്തിനും അനുസൃതമായി നിങ്ങളുടെ സ്വകാര്യ ഡാറ്റയെ ബഹുമാനിക്കാനും സംരക്ഷിക്കാനും പ്രതിജ്ഞാബദ്ധമാണ്. ഡാറ്റാ പരിരക്ഷയെക്കുറിച്ചുള്ള കൂടുതൽ വിവരങ്ങൾ, ഇനിപ്പറയുന്നവ ഉൾപ്പെടെ:

- നിങ്ങളുടെ അവകാശങ്ങൾ
- കാർഡിഫ് യൂണിവേഴ്സിറ്റി നിങ്ങളുടെ സ്വകാര്യ ഡാറ്റാ ഗവേഷണത്തിനായി പ്രോസസ്സ് ചെയ്യുന്ന നിയമപരമായ അടിസ്ഥാനം
- കാർഡിഫ് യൂണിവേഴ്സിറ്റിയുടെ ഡാറ്റാ പ്രൊട്ടക്ഷൻ പോളിസി
- കാർഡിഫ് യൂണിവേഴ്സിറ്റി ഡാറ്റാ പ്രൊട്ടക്ഷൻ ഓഫീസറെ എങ്ങനെ ബന്ധപ്പെടാം
- വിവരാവകാശ കമ്മീഷണറുടെ ഓഫീസുമായി എങ്ങനെ ബന്ധപ്പെടാം

<https://www.cardiff.ac.uk/public-information/policies-and-procedures/data-protection> എന്നതിൽ കണ്ടെത്താം

ഗവേഷണം അവസാനിച്ചതിന് ശേഷം, നിങ്ങളുടെ സമ്മതപത്രം ഒഴികെ, ഈ ഗവേഷണ പ്രോജക്റ്റുമായി ബന്ധപ്പെട്ട് നിങ്ങളിൽ നിന്നോ നിങ്ങളിൽ നിന്നോ ശേഖരിച്ച എല്ലാ വ്യക്തിഗത ഡാറ്റയും ഗവേഷണ സംഘം അജ്ഞാതമാക്കും. ബിരുദം (2024) കഴിഞ്ഞ് ഉടൻ സൂക്ഷിക്കുന്നത് വരെ നിങ്ങളുടെ സമ്മത ഫോം നിലനിർത്തും. കൂടാതെ ഗവേഷണ ടീമിലെ അംഗങ്ങൾക്കും ആവശ്യമെങ്കിൽ സർവകലാശാലയുടെ ഗവേഷണൻസ് ഓഡിറ്റ് ടീമുകൾ അല്ലെങ്കിൽ റെഗുലേറ്ററി അതോറിറ്റികൾ എന്നിവർക്കും ഇത് ആക്സസ് ചെയ്യാവുന്നതാണ്. അജ്ഞാതവിവരങ്ങൾ കുറഞ്ഞത് രണ്ട് വർഷത്തേക്ക് സൂക്ഷിക്കപ്പെടും. എന്നാൽ ഗവേഷണ പ്രോജക്റ്റിന് പിന്തുണയായി പ്രസിദ്ധീകരിക്കുകയും കൂടാതെ അല്ലെങ്കിൽ അനിശ്ചിതമായി നിലനിർത്തുകയും ചെയ്തേക്കാം, അവിടെ ഗവേഷണ ആവശ്യങ്ങൾക്കായി അതിന് തുടർച്ചയായ മൂല്യമുണ്ടാകാൻ സാധ്യതയുണ്ട്.

കാരണം പറയാതെ എപ്പോൾ വേണമെങ്കിലും പഠനത്തിൽ നിന്ന് പിന്മാറാൻ നിങ്ങൾക്ക് സ്വാതന്ത്ര്യമുണ്ട്. എന്നിരുന്നാലും, ഇതിനകം പ്രസിദ്ധീകരിച്ച ഏതെങ്കിലും അജ്ഞാത ഡാറ്റാ പിൻവലിക്കാൻ കഴിയില്ല. അല്ലെങ്കിൽ ചില സന്ദർഭങ്ങളിൽ, ഒരു ഗവേഷണ പ്രോജക്റ്റിന്റെ വേളയിൽ ഐഡൻറിഫയറുകൾ മാറ്റാനാകാത്ത വിധത്തിൽ നീക്കം ചെയ്യാൻ, അത് അജ്ഞാതമാക്കിയ ഘട്ടത്തിൽ നിന്ന്.

10. ഗവേഷണ പദ്ധതിയുടെ അവസാനം ഡാറ്റയ്ക്ക് എന്ത് സംഭവിക്കും?

ഗവേഷണ വേളയിൽ നിങ്ങളിൽ നിന്ന് ശേഖരിക്കുന്ന എല്ലാ ഡാറ്റാ നിരീക്ഷണ കുറിപ്പുകളും അഭിമുഖ ട്രാൻസ്ക്രിപ്റ്റുകളും റെക്കോർഡിംഗുകളും കർശനമായി രഹസ്യമായി സൂക്ഷിക്കുകയും സുരക്ഷിതമായി സൂക്ഷിക്കുകയും ചെയ്യും. ഒരു ഐഡി നമ്പർ ഉപയോഗിച്ച് നിങ്ങളെ തിരിച്ചറിയും, നിങ്ങളെക്കുറിച്ചുള്ള ഏത് വിവരവും നിങ്ങളുടെ പേരും വിലാസവും നീക്കം ചെയ്യുന്നതിനാൽ അതിൽ നിന്ന് നിങ്ങളെ തിരിച്ചറിയാൻ കഴിയില്ല. ഗവേഷണത്തിന് പുറത്തുള്ള ആർക്കും യഥാർത്ഥ റെക്കോർഡിംഗിലേക്ക് പ്രവേശനം അനുവദിക്കില്ല.

11. ഗവേഷണ പദ്ധതിയുടെ ഫലങ്ങൾക്ക് എന്ത് സംഭവിക്കും?

ഗവേഷണത്തിന്റെ ഫലങ്ങൾ ഒരു ശാസ്ത്ര ജേണലിൽ പ്രസിദ്ധീകരിക്കാനും കോൺഫറൻസിൽ കണ്ടെത്തലുകൾ അവതരിപ്പിക്കാനും ഞങ്ങൾ പ്രതീക്ഷിക്കുന്നു, കണ്ടെത്തലുകൾ ചിത്രീകരിക്കാൻ നിങ്ങൾ പറയുന്നതിന്റെ ചെറിയ ഉദ്ധരണികൾ ഞങ്ങൾ ഉപയോഗിച്ചേക്കാം. എന്നിരുന്നാലും, നിങ്ങളെ വ്യക്തിപരമായി തിരിച്ചറിയുന്ന വിശദാംശങ്ങളൊന്നും ഞങ്ങൾ പ്രസിദ്ധീകരിക്കില്ല.

12. ഒരു പ്രശ്നമുണ്ടെങ്കിൽ എന്തുചെയ്യും?

ഈ ഗവേഷണ വേളയിൽ നിങ്ങളെ സമീപിച്ചതോ കൈകാര്യം ചെയ്തതോ ആയ ഏതെങ്കിലും വശത്തെക്കുറിച്ച് പരാതിപ്പെടാനോ അല്ലെങ്കിൽ ആശങ്കകൾക്ക് കാരണമുണ്ടെങ്കിൽ, നിങ്ങളുടെ ചോദ്യങ്ങൾക്ക് ഉത്തരം



ഈ ഗവേഷണ പ്രോജക്റ്റിൽ പങ്കെടുക്കുന്നതിലൂടെ നിങ്ങൾക്ക് ദോഷം സംഭവിക്കുകയാണെങ്കിൽ, പ്രത്യേക നഷ്ടപരിഹാര ക്രമീകരണങ്ങളൊന്നുമില്ല. ആരുടെയെങ്കിലും അശ്രദ്ധ കാരണം നിങ്ങൾക്ക് ദോഷം സംഭവിച്ചാൽ, നിയമനടപടിക്ക് നിങ്ങൾക്ക് കാരണമുണ്ടാകാം, പക്ഷേ നിങ്ങൾ അതിന് പണം നൽകേണ്ടിവരും.

13. ആരാണ് ഈ ഗവേഷണ പദ്ധതി സംഘടിപ്പിക്കുകയും ധനസഹായം നൽകുകയും ചെയ്യുന്നത്?
ഡോ. ഷിബു രാമന്റെ മേൽനോട്ടത്തിൽ കാർഡിഫ് സർവകലാശാലയിലെ വെൽഷ് സ്കൂൾ ഓഫ് ആർക്കിടെക്ചറിൽ പിഎച്ച്ഡി വിദ്യാർത്ഥി യാഗ്മൂർ ബുർക്കു ഗൺസ് ആണ് ഗവേഷണം സംഘടിപ്പിച്ചത്. കൊച്ചിയിൽ നിന്നുള്ള പ്രാദേശിക ഗവേഷകരായ ആൻസി, വരുണ സി വി എന്നിവരുടെ പിന്തുണയോടെ യാഗ്മൂർ ബുർക്കു ഗൺസ് ആണ് ഗവേഷണം നടത്തുന്നത്. ദേശീയ വിദ്യാഭ്യാസ മന്ത്രാലയത്തിലെ റിപ്പബ്ലിക് ഓഫ് തുർക്കിയാണ് നിലവിൽ ഗവേഷണത്തിന് ധനസഹായം നൽകുന്നത്.

14. ആരാണ് ഈ ഗവേഷണ പദ്ധതി അവലോകനം ചെയ്തത്?
വെൽഷ് സ്കൂൾ ഓഫ് ആർക്കിടെക്ചർ, സ്കൂൾ റിസർച്ച് എത്തിക്സ് കമ്മിറ്റി (SREC) ഈ ഗവേഷണ പദ്ധതി അവലോകനം ചെയ്യുകയും അനുകൂലമായ അഭിപ്രായം നൽകുകയും ചെയ്തിട്ടുണ്ട്.

ഈ ഗവേഷണ പദ്ധതിയിൽ പങ്കെടുക്കുന്നത് പരിഗണിച്ചതിന് നന്ദി. നിങ്ങൾ പങ്കെടുക്കാൻ തീരുമാനിക്കുകയാണെങ്കിൽ, പങ്കാളിയുടെ വിവര ഷീറ്റിന്റെ ഒരു പകർപ്പും നിങ്ങളുടെ രേഖകൾക്കായി സൂക്ഷിക്കാൻ ഒപ്പിട്ട സമ്മത ഫോമും നിങ്ങൾക്ക് നൽകും.

APPENDIX 10: Consent form in English



Appendix 4

Participant ID no:

CONSENT FORM

Title of research project: Research on everyday life and transformation of natural land formations in the backwaters of Kochi

SREC reference and committee:

Name of Chief/Principal Investigator: Yagmur Burcu Gunes



Please
initial
box

I confirm that I have read the information sheet dated [30/03/2022] version [01] for the above research project.	
I confirm that I have understood the information sheet dated [30/03/2022] version [01] for the above research project and that I have had the opportunity to ask questions and that these have been answered satisfactorily.	
I understand that my participation is voluntary and I am free to withdraw at any time without giving a reason and without any adverse consequences.	
I understand that data collected during the research project may be looked at by individuals from Cardiff University or from regulatory authorities, where it is relevant to my taking part in the research project. I give permission for these individuals to have access to my data.	
I consent to the processing of my personal information [name, surname, address] for the purposes explained to me. I understand that such information will be held in accordance with all applicable data protection legislation and in strict confidence unless disclosure is required by law or professional obligation.	
I understand who access to personal information will have provided, how the data will be stored and what will happen to the data at the end of the research project.	
I understand that after the research project, anonymised data may be made publicly available via a data repository and may be used for purposes not related to this research project. I understand that it will not be possible to identify me from this data that is seen and used by other researchers, for ethically approved research projects, on the understanding that confidentiality will be maintained.	
I consent to being audio recorded/ video recorded/ having my photograph taken for the purposes of the research project and I understand how it will be used in the research.	
I understand that anonymised excerpts and/or verbatim quotes from my [Interview/Questionnaire] may be used as part of the research publication.	
I understand how the findings and results of the research project will be written up and published.	
I agree to take part in this research project.	

Name of participant (print)

Date

Signature

Yagmur Burcu Gunes

Name of person taking consent
(print)

Date

Signature

Chief Investigator

Role of person taking consent (print)

THANK YOU FOR PARTICIPATING IN OUR RESEARCH. YOU WILL BE GIVEN A COPY OF THIS CONSENT FORM TO KEEP.

Version 01

[30/03/2022]

APPENDIX 11: Consent form in Malayalam



പങ്കാളിയുടെ ഐഡി നമ്പർ:

അനുമതി പത്രം

ഗവേഷണ പദ്ധതിയുടെ തലക്കെട്ട്: കൊച്ചിയിലെ കായലിലെ പ്രകൃതിദത്ത ഭൂമി രൂപീകരണത്തെക്കുറിച്ചുള്ള ഭൈനംഭിന ജീവിതത്തെയും പരിവർത്തനത്തെയും കുറിച്ചുള്ള ഗവേഷണം

ചീഫ്/പ്രിൻസിപ്പൽ ഇൻവെന്റിഗേറ്ററുടെ പേര്: യശ്വർ ബർകു ഗുണേസ്

[Redacted]

ദയവായി
പ്രാരംഭം
ബോക്സ്

മുകളിലുള്ള ഗവേഷണ പ്രോജക്റ്റിനായി [30/03/2022] പതിപ്പ് [01] തീയതിയിലുള്ള വിവര ഷീറ്റ് ഞാൻ വായിച്ചിട്ടുണ്ടെന്ന് ഞാൻ സ്ഥിരീകരിക്കുന്നു.	
മേൽപ്പറഞ്ഞ ഗവേഷണ പ്രോജക്റ്റിനായി [30/03/2022] പതിപ്പ് [01] തീയതിയിലുള്ള വിവര ഷീറ്റ് ഞാൻ മനസ്സിലാക്കിയിട്ടുണ്ടെന്നും ചോദ്യങ്ങൾ ചോദിക്കാൻ എനിക്ക് അവസരം ലഭിച്ചിട്ടുണ്ടെന്നും ഇവയ്ക്ക് തൃപ്തികരമായ ഉത്തരം ലഭിച്ചിട്ടുണ്ടെന്നും ഞാൻ സ്ഥിരീകരിക്കുന്നു.	
എന്റെ പങ്കാളിത്തം സ്വയംയോ ഉള്ളതാണെന്നും കാരണം പറയാതെയും പ്രതികൂല പ്രത്യാഘാതങ്ങളൊന്നും കൂടാതെ എപ്പോൾ വേണമെങ്കിലും പിൻവലിക്കാൻ എനിക്ക് സ്വാതന്ത്ര്യമുണ്ടെന്നും ഞാൻ മനസ്സിലാക്കുന്നു.	
ഗവേഷണ പ്രോജക്റ്റിനിടെ ശേഖരിക്കുന്ന ഡാറ്റാ കാർഡിഫ് യൂണിവേഴ്സിറ്റിയിൽ നിന്നുള്ള വ്യക്തികളോ റെഗുലേറ്ററി അതോറിറ്റികളിൽ നിന്നോ നോക്കിയേക്കാമെന്ന് ഞാൻ മനസ്സിലാക്കുന്നു. അവിടെ ഞാൻ ഗവേഷണ പ്രോജക്റ്റിൽ പങ്കെടുക്കുന്നതിന് പ്രസക്തമാണ്. ഈ വ്യക്തികൾക്ക് എന്റെ ഡാറ്റയിലേക്ക് ആക്സസ് ലഭിക്കാൻ ഞാൻ അനുമതി നൽകുന്നു.	
എനിക്ക് വിശദീകരിച്ച ആവശ്യങ്ങൾക്കായി എന്റെ വ്യക്തിഗത വിവരങ്ങൾ പ്രേർ, കുടുംബപ്പേര്, വിലാസം പ്രോസസ്സ് ചെയ്യുന്നതിന് ഞാൻ സമ്മതം നൽകുന്നു. അത്തരം വിവരങ്ങൾ ബാധകമായ എല്ലാ ഡാറ്റാ പരിരക്ഷണ നിയമനിർമ്മാണങ്ങൾക്കും അനുസൃതമായും കർശനമായ വിശ്വാസ്യതയോടെയും സൂക്ഷിക്കപ്പെടുമെന്ന് ഞാൻ മനസ്സിലാക്കുന്നു. നിയമമോ പ്രൊഫഷണൽ ബാധ്യതയോ പ്രകാരം വെളിപ്പെടുത്തൽ ആവശ്യമില്ലെങ്കിൽ.	
വ്യക്തിഗത വിവരങ്ങളിലേക്കുള്ള ആക്സസ് ആർക്കാൺ നൽകിയിട്ടുള്ളതെന്നും ഡാറ്റാ എങ്ങനെ സംഭരിക്കുമെന്നും ഗവേഷണ പദ്ധതിയുടെ അവസാനം ഡാറ്റയ്ക്ക് എന്ത് സംഭവിക്കുമെന്നും ഞാൻ മനസ്സിലാക്കുന്നു.	
ഗവേഷണ പ്രോജക്റ്റിന് ശേഷം, അജ്ഞാത ഡാറ്റാ ഒരു ഡാറ്റാ ശേഖരം വഴി പൊതുവായി ലഭ്യമാക്കിയേക്കാമെന്നും ഈ ഗവേഷണ പ്രോജക്റ്റുമായി ബന്ധമില്ലാത്ത ആവശ്യങ്ങൾക്ക് ഉപയോഗിക്കാമെന്നും ഞാൻ മനസ്സിലാക്കുന്നു. മറ്റ് ഗവേഷകർ കാണുകയും ഉപയോഗിക്കുകയും ചെയ്യുന്ന ഈ ഡാറ്റയിൽ നിന്ന് എന്നെ തിരിച്ചറിയാൻ കഴിയില്ലെന്ന് ഞാൻ മനസ്സിലാക്കുന്നു. ധാർമ്മികമായി അംഗീകരിക്കപ്പെട്ട ഗവേഷണ പ്രോജക്റ്റുകൾക്കായി, രഹസ്യസ്വഭാവം നിലനിൽക്കും.	
ഗവേഷണ പ്രോജക്റ്റിന്റെ ആവശ്യങ്ങൾക്കായി ഓഡിയോ റെക്കോർഡ് ചെയ്യപ്പെടുന്നതിന്/ വീഡിയോ റെക്കോർഡ് ചെയ്യപ്പെടുന്നതിന് എന്റെ ഫോട്ടോ എടുക്കുന്നതിന് ഞാൻ സമ്മതിക്കുന്നു. ഗവേഷണത്തിൽ അത് എങ്ങനെ ഉപയോഗിക്കുമെന്ന് ഞാൻ മനസ്സിലാക്കുന്നു.	
എന്റെ ഇൻ്റർവ്യൂ/ചോദ്യാവലി എന്നതിൽ നിന്നുള്ള അജ്ഞാത ഉദ്ധരണികളും കൂടാതെ അല്ലെങ്കിൽ പദാനുപദ ഉദ്ധരണികളും ഗവേഷണ പ്രസിദ്ധീകരണത്തിന്റെ ഭാഗമായി ഉപയോഗിക്കാമെന്ന് ഞാൻ മനസ്സിലാക്കുന്നു.	
ഗവേഷണ പ്രോജക്റ്റിന്റെ കണ്ടെത്തലുകളും ഫലങ്ങളും എങ്ങനെ എഴുതുകയും പ്രസിദ്ധീകരിക്കുകയും ചെയ്യുമെന്ന് ഞാൻ മനസ്സിലാക്കുന്നു.	
ഈ ഗവേഷണ പദ്ധതിയിൽ പങ്കെടുക്കാൻ ഞാൻ സമ്മതിക്കുന്നു.	

പങ്കെടുക്കുന്നയാളുടെ പേര്

തീയതി

കയ്യൊപ്പ്

Yagmur Burcu Gunes

സമ്മതം വാങ്ങുന്ന വ്യക്തിയുടെ പേര്

തീയതി

കയ്യൊപ്പ്

മുഖ്യ അന്വേഷകൻ

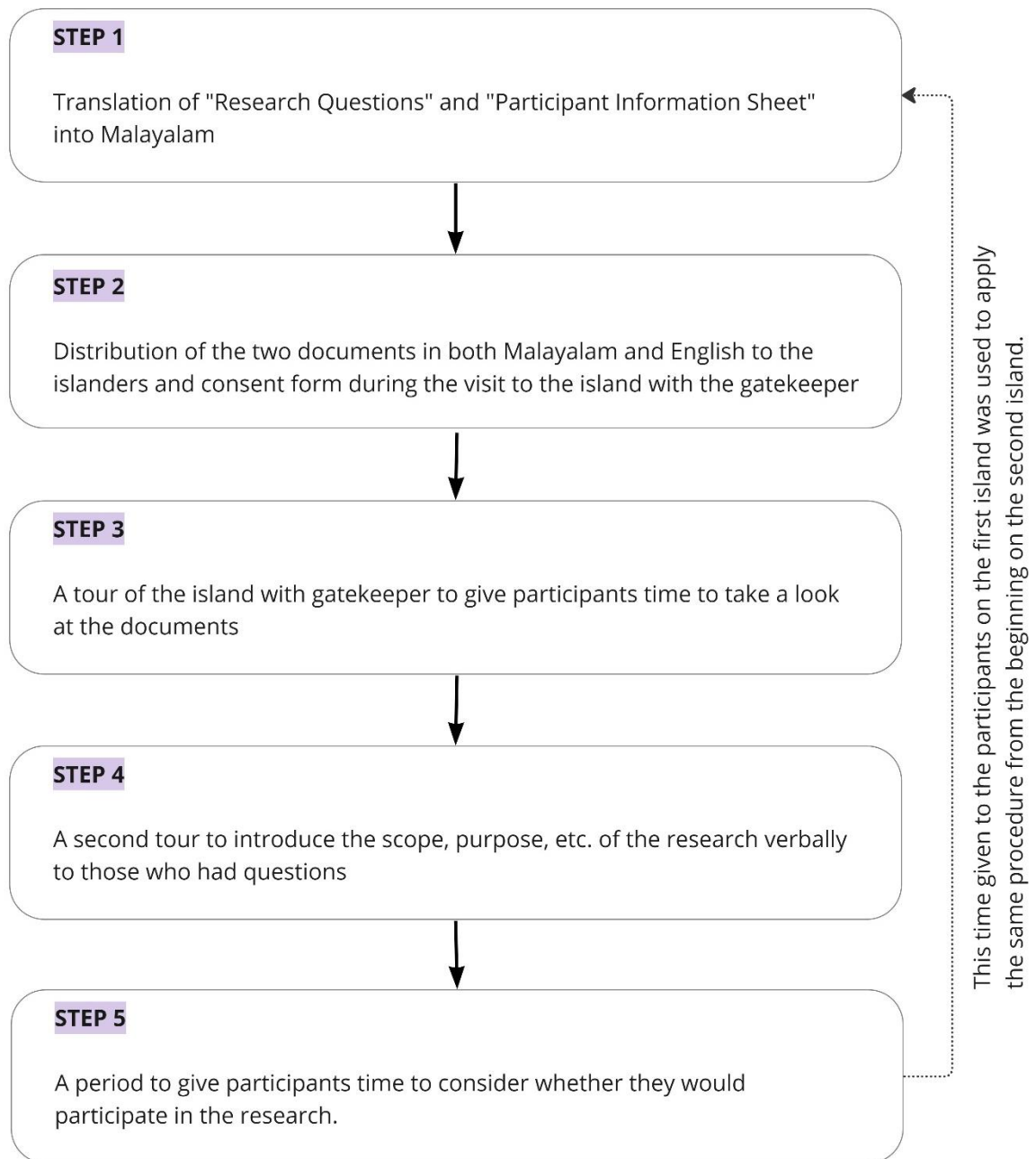
സമ്മതം വാങ്ങുന്ന വ്യക്തിയുടെ പങ്ക്

ഞങ്ങളുടെ ഗവേഷണത്തിൽ പങ്കെടുത്തതിന് നന്ദി, സൂക്ഷിക്കാൻ ഈ സമ്മത ഫോമിന്റെ ഒരു പകർപ്പ് നിങ്ങൾക്ക് നൽകും.

Version 01

[30/03/2022]

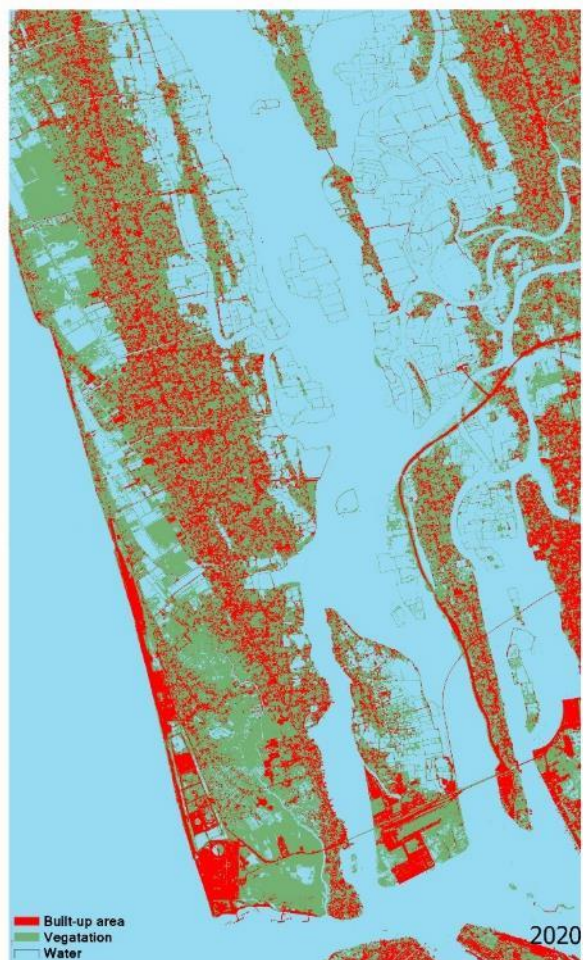
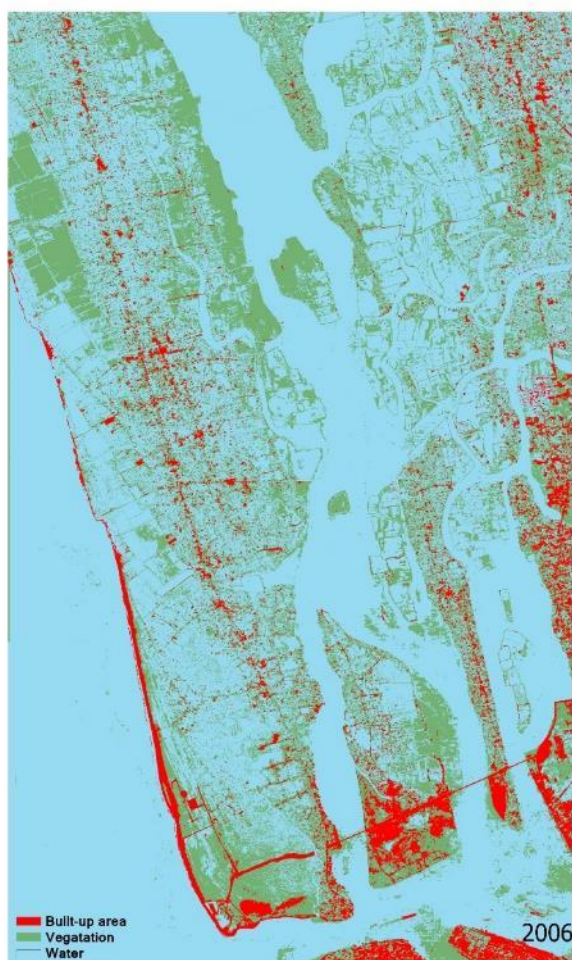
APPENDIX 12: Process of informing participants



APPENDIX 13: Translation process of interviews

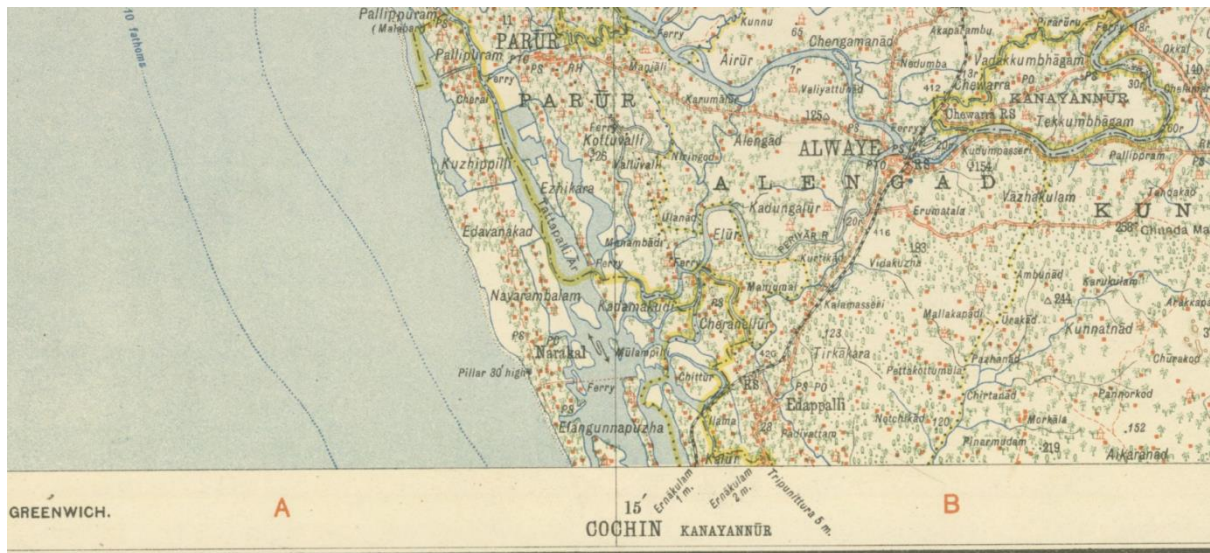


APPENDIX 14: Land cover classification of Kochi



[illegible]

Map showing Kochi in 1922 (Ryder 1922).



Map showing selected islands in 1922 (Ryder 1922).

APPENDIX 16: Participant profile

No	Pseudo-nym	Occupation	Island	Date	Place of interview	Translation support during interview	Transcription support after interview
1	Pooja	Housewife	CK	21/04/2022	Verandah of the house	Ancy Shaji	Varuna C V
2	Suraj	Construction foreman- Public servant	CK	22/04/2022	Pokkali field and open spaces on the island	Ancy Shaji	Varuna C V
3	Waseem	Public servant	CK	24/04/2022	Living room of the house	Ancy Shaji	Varuna C V
4	Varun	Public servant	CK	25/04/2022	A cafe	Ancy Shaji	Varuna C V
5	Aaron	Farmer	CK	26/04/2022	Living room of the house, farming area and Chinese net	Ancy Shaji	Varuna C V
6	Anson	Worker	EM	28/04/2022	Living room of the house	Ancy Shaji	Varuna C V
7	Joshua	Farmer	CK	28/04/2022	Living room of the house and Pokkali field	Varuna C V	Varuna C V
8	Bhavya	Housewife	EM	29/04/2022	Living room of the house	Ancy Shaji	Varuna C V
9	Bhuvan	Housewife	EM	02/05/2022	Living room of the house	Ancy Shaji	Varuna C V
10	Shobhita	Farmer	EM	03/05/2022	Living room of the house	Ancy Shaji	Varuna C V
11	Manish	Farmer	EM	03/05/2022	Verandah of the house	Varuna C V	Varuna C V
12	Antonio	Retired	EM	04/05/2022	Living room of the house	Ancy Shaji	Varuna C V

13	Ravi	Farmer	EM	04/05/2022	Verandah of the house	Varuna C V	Varuna C V
14	Minar	Farmer	EM	05/05/2022	Living room of the house and garden	Ancy Shaji	Varuna C V
15	Annapurna	Farmer	EM	06/05/2022	Main bed-room of the house, living room, Pokkali fields	Ancy Shaji Varuna C V	Varuna C V
16	Andrew	Farmer	CK	07/05/2022	Verandah of the house and garden	Ancy Shaji Varuna C V	Varuna C V
17	Yashita	Housewife	CK	07/05/2022	Living room of the house	Ancy Shaji Varuna C V	Varuna C V
18	Meena	Farmer	CK	07/05/2022	Living room of the house	Ancy Shaji Varuna C V	Varuna C V

Notes:

1. Information revealing the identity of the participants was censored in the interview transcripts.

2. The abbreviations in the interviews are as follows.

Y: Yagmur (Main researcher)

V: Varuna C V* (Local researcher)

A: Ancy Shaji (Local researcher)

P: Participant (in cases where the participant prefers to speak English, the direct sentences of the participants are conveyed in this way.)

* Varuna C V is an expert in the field of socio-cultural analysis, with a particular focus on the reconstruction of tradition and policy-related socio-cultural disparities in Kerala.

**Ancy Shaji is a researcher with an in-depth understanding of coastal communities in Kerala, shaped by her first-hand experience within these communities.

Interview No. 1

	Timespan	Content
1	0:00.0 - 0:00.1	Y: Hi. I am Yagmur. Nice to meet you.
2	0:00.0 - 0:10.9	(Brief introduction to research)
3	0:10.9 - 0:21.6	malayalam speaking
4	0:21.5 - 0:27.5	(asking their questions about the research in Malayalam to translator)
5	0:27.5 - 0:37.1	malayalam speaking
6	0:37.1 - 0:45.7	Y: What is the plot name?
7	0:45.6 - 0:45.7	malayalam speaking
8	0:49.3 - 0:56.1	A: They said "Here is Cheriya Kadamakudy and house name is Karishakeri.
9	0:56.1 - 1:12.2	malayalam speaking
10	1:12.2 - 1:25.3	Y: Can you introduce yourself? A: two of them working here and this is her husband's house Y: Okay. How many people are living here A: Four. Y: She, her husband and two children?
11	1:25.2 - 1:25.4	malayalam speaking
12	1:27.0 - 1:32.8	malayalam speaking
13	1:32.7 - 1:42.0	A: her husband's father and mother and they both Y: okay and what is she doing
14	1:42.0 - 2:28.4	A:She is studying in xxxx at xxxxx. Y: Okay A: Should I note down that Y: Yes please.
15	2:28.4 - 2:34.0	Y:How long has she been here ?
16	2:33.9 - 3:03.0	malayalam speaking
17	3:03.0 - 3:39.7	Y:What

		A: She has been married for one and half years. And her house was in Pizhala. Yesterday we went there. Now she is staying with her husband, his mother and his father. Y: okay A: In this house. Y: Okay A: And she is a XXXX student. Y: And her husband is living here for how many years
18	3:39.7 - 3:44.1	Malayalam speaking (Here the bride wants to stay in the background a little. Shee states that she does not know enough about the island and the islanders. Her sister-in-law, a local person of the island, jumps into the conversation and continues. She is a housewife and was born and raised on this island) V: She said "We have been here since our great grandfather's time".
19	3:43.2 - 3:54.7	.
20	3:54.7 - 4:21.8	Malayalam speaking V: She said "This is our own property." Y: This was your own? Like it was not given by anybody, was it? V: She said "No, No, this was our great grandfather's". Y: Not that, in the past, landlords used to grant land. Was this anything like that?" V: She said "This was bought."
21	4:21.8 - 4:29.2	A: Their great grandfathers brought this land.
22	4:28.9 - 4:42.9	malayalam speaking (She enquires it to her father) V: She said "More than 48 years now."
23	4:42.9 - 5:00.1	A: 48 years ago.
24	5:00.1 - 5:25.2	malayalam speaking V: She said "It has been 48 years. It was bought by my fathers father." Y:Not your great grandfather? V: She said "No, No." Y: So, who owned this before? V: She said "I don't know anything about that."

25	5:25.2 - 6:03.7	A: Actually this property belonged to someone else and his fathers father brought this. So she is the third generation. Three generations have lived here. So this is 48 years. Y: Can she describe her typical day?
26	6:03.7 - 6:20.1	malayalam speaking
27	6:20.1 - 7:05.0	A: Morning they will go to work and afternoon they will come back. Y: She is going to other places not on the island and then she is coming in the evening. Not active on the island then. A: No, actually the bride is studying outside of the island. There is no school on this island. And she has to go to another place to study. Father in law and mother in law are also working outside this island. They come back in the evening and they prepare the food and eat food. Y: And they are not doing any fishing activity there right?
28	7:05.0 - 7:35.7	Malayalam speaking V: She said "Nobody in our family does it. Usually fishing is done in all farms after <i>Vishu</i> (a festival in April) but this time some kind of license period extension was given. After that everybody will go for it in any farm." Y: Is nobody from your family into fishing? V: She said "My father is actually a fisherman but now does other jobs. He used to do fish farming taking the farms on lease but stopped it."
29	7:35.7 - 7:59.0	Malayalam speaking
30	7:58.9 - 8:02.9	malayalam speaking Y: Then what happened? V: She said "he stopped it when began to be at a loss".
31	8:03.3 - 8:42.6	Y: Is there any place islander can meet?
32	8:42.5 - 9:17.8	Malayalam speaking V: She said "Do you mean for playing and all?" Y: Yeah, anywhere to gather and all? V: She said "There is a ground here. Y: Where? V: She said "Near the bridge. On this side of the bridge. Then there is one near the church. Y: Other than that there is none. Isn't it?

		V: She said "There is one on the southern end. "
33	9:17.8 - 9:59.3	A: And at the end (of the island) there is a small place. Children playing there and all the people. Y: Okay playground area and a small area at the end of the road. A:Yes. And there is no such thing like that. Y: And why are they meeting there? A: just for usual talks. Y: I am wondering if there is any specific festival or is there any special date here to celebrate.
34	9:59.3 - 10:11.5	Malayalam speaking V: She said "Festival in the church". Y: Is there only that? What about the fish harvesting period? V: She said "Yeah, it is obvious."
35	10:11.5 - 10:22.2	Malayalam speaking
36	10:22.1 - 10:24.7	malayalam speaking
37	10:24.6 - 10:31.6	A: Saint Sebastian church is having a date. Y: Is there any specific date? Name for the day?
38	10:31.6 - 10:44.3	Malayalam speaking
39	10:45.2 - 10:58.9	Y:When are they celebrating? A: January 30th.
40	10:58.8 - 11:17.2	malayalam speaking
41	11:17.2 - 11:26.7	Y: Okay. For her, what are the good things about living here?
42	11:26.7 - 11:38.7	malayalam speaking
43	11:38.7 - 11:58.1	malayalam speaking
44	11:58.1 - 12:32.6	Malayalam speaking V: She said "Of course there are differences. We didn't have a road..., that bridge". Y: Oh, is the one built by the navy? V: She said "Not that. This one(mentioning the smaller one) the other was built by the Navy". Malayalam speaking

		V: She said “It was a narrow footpath(called <i>chera</i> in Malayalam). Just that we could walk through it or ride a two wheeler, congested. Compared to it, things have advanced this much now. “ How long has it been now? (Enquires to her father about construction of the roads within the island) 10 years now.
45	12:32.6 - 13:00.7	Y: What is she saying? A: Actually ten years before there was no proper road to come here. It was a kind of man mad. After ten years these roads have been constructed.
46	13:00.6 - 13:04.6	malayalam speaking
47	13:04.6 - 14:24.2	Y:Can you ask the time of the construction of the bridge? A: Before that it was very difficult to go to the hospital at all. So now it is very easy. Y: Construction of bridge? A: No. The road. Everything. Y: Okay can you ask the Navy’s bridge? A:Which one? Y? You know the army. Does she know when it was built? A: The bridge was made by the navy in 2018. A: She told. Before ten years there wasn't a proper road and she was telling... Y: Can you ask in the past how they are going to the hospital? A: So she told me there was transportation through motorcycles. So other times they go by boat.
48	14:24.9 - 14:31.2	Malayalam speaking (Repeating, to be specific that it was a small boat)
49	14:31.1 - 14:38.0	malayalam speaking
50	14:41.6 - 15:43.1	malayalam speaking A:They have to go to Cithu. Y:Cithu is a place or hospital name? A:Place, place. Y: Okey. and What about the children? They are going to school and they are using the bridge and road. but before they were using only the boat. A:They were going through this road itself. It was a small road. Y: They were using the old bridge then? Malayalam speaking
51	15:43.0 - 17:23.4	A:Actually, she is saying that the bridge was built 22 years ago. A: 22 years old bridge that near to navy bridge Y: Okay. This old bridge. was constructed 22 years ago.

		A: Yeah, yeah. Through that way people are going. Before that, there was a boat shift. Yesterday we went. Y: You mean before 22 year ago, they were just using the boat Y: how do they provide potable water? Malayalam speaking V: She said "Before the pipe connection was installed we had a public tap. We used to collect water from it using pots." Y: Where was it? V: She said "Beyond these 2-3 houses." When was that pipe installed? V: She said "That was...many years ago...like even before we began to live in this house. "
52	17:23.4 - 18:05.7	Malayalam speaking A: She said "Now we have a cooperation pipe at home. Before that, lots of years before, generation and generation before, we have collected the water from the church." Y: From the church? San sebastian church? A: Near to that, there was a pipe. Malayalam speaking V: She said "Not like that... We had to take water from hand pumps. Hand pumps were installed in certain areas for a specific number of houses. We won't get sufficient water from them. So we used to go to Valiya Kadamakkudy in boats to fetch water from a pond there. "
53	18:05.7 - 19:27.4	Y: Now? Each home has pipes, right? A: Yeah. Malayalam speaking.
54	19:25.6 - 20:41.2	A: She is telling when after the pipe got stuck, the government Y: The pipe got stuck?? Malayalam Speaking A: They had a pipe, afterhat, there was scarcity in the water. At that time, the panchayat initiated a project about taking water in a boat. They provided it to every home once a week. Y: Okey. once a week. A: Once a week. Y: Do you know when it was exactly? A: That was a very old situation.
55	20:41.2 - 22:53.7	Y: Who built this house? Does she know? Grandparents? A: Yes, grandfather. Y: Her father's father? Malayalam speaking

		A: Actually there is a house just back there. That is the main house, the family house. He(Her husband) is the older brother. He moved to the new house so their parents gave him this property. He built this house. Her father in law. Y: When did they build this house? A: Ten years. Y: Ten years ago. Other one? Malayalam speaking. A: That house is 40 years old. When they came here, they built that house. That house was reconstructed. Y: Okey.
56	21:18.4 - 21:31.1	Malayalam speaking V: She said "We were at our ancestral home which is behind this house. We later shifted to this house. Here, the elder sons shift to another house. This was built 10 years ago".
57	22:06.0 - 22:33.4	Malayalam speaking V: She said "It was a much older house before and was reconstructed to this form." Y: How old is it then? V: She said "Which one? That house?" No, ancestral house. V: She said "That's what I said...nearly 44 years."
58	22:53.7 - 24:41.6	Malayalam speaking Y: What is the meaning of your house name? Malayalam speaking A: It is a house name. Y: Does she know anything about the meaning? Malayalam speaking A: They do not know. They were great grandfather's names. Actually this name has been handovered generation by generation. very old name. Y: okay, can you ask, has there been any difference in the size of the land? Malayalam speaking.
59	25:19.1 - 25:33.6	Malayalam speaking V: She said "The plot gets divided among the children. "
60	25:27.1 - 26:15.3	A: His father was having this plot. It has been handovered from his father. so it has been..... it is 10 cent. Y:so? A: How many cents you asked for the house, this property is 10 cents. this has been divided from that home. This was a big place and his father divided this into for each child.

		Y: hm.. Is there any change in boundaries of the plot? Malayalam speaking
61	26:57.4 - 27:33.2	Malayalam speaking V: She said "No it's not possible now. We have strict rules regarding it now and also people define their plot with walls." Y: What if there is a little encroachment? V: She said "If a complaint is registered it can be an issue."
62	27:15.4 - 27:41.5	Malayalam speaking.
63	27:42.4 - 28:07.0	A: The government has lots of issues. everyone has put their boundary ward so it has been done years before. now it is not happening.
64	28:09.7 - 30:24.6	A: Someone complained that I think they have taken a little more space from the river. someone complained. officials will come and check whether it is right or not. if it is right, they will get punishment Y: okey. Malayalam speaking. Y: What is her father's occupation? A: electrician. Y: okey. he is not here, right? A: He is not well. He has health issues.
65	30:20.5 - 34:10.5	Malayalam speaking A: There is a home backside, his brother's home, that's it. three people are working. one is going to work. Y: Okay. you know. There was a flood in 2018 after that the army made many things for the rehabilitation of the island. maybe we can ask about it. Malayalam speaking. A: In 2018, there was a flood. water was still here. They went to some other place. Malayalam speaking. A: When the flood came, these people were taken from here with the help of the fisherman. They helped them to go from here to another place. Y: when did they come back? A: 12 days. Y: 12 days after. Y: Can you ask if the army helped them? Malayalam speaking A: The Army has built three houses for this island. Malayalam speaking A: When the flood came, some houses were damaged, some houses were partly damaged. the army built 3 houses on this island. They constructed everything. Y: Is there anything? They made a bridge after the flood, she mentioned. Malayalam speaking.

66	34:10.2 - 36:09.6	Malayalam speaking A: The navy gave every home a single bed to them. Constructed and gave them. Y: Okay. bed Like a wooden bed? A: yeah. Y: Can you ask... Malayalam speaking. A: They have solar panels for every home. Y: and this playground, right? Can you ask Ancy, is there any change in the number of houses on the island? Malayalam speaking. A: Actually these people have been living here for lots of years. noone is coming from another island and staying over here. and these are all relatives and cousins staying here and have been separated. Y: Okay. Do they know anything about the coastal regulation zone? about something to construct a building? Malayalam speaking.
67	36:11.4 - 37:36.5	Malayalam speaking. A: There was no problem like that. Y: No. do they know anything about that? A:A new rule has come. it is like. You have, in front there is a river. you have to build your home a hundred meters back. There is a new rule like that. Y: Hundred meters? A: And on this island, it is not gonna happen, if it is like that no one can build their home. Y: I am wondering if they want to build any house. Is there any other rule? A: yeah. This is the new rule. a hundred meters back only you can build a new home. Y: It is not feasible.
68	37:36.6 - 39:08.2	A: Not. it is not. It means a hundred meters.... no one can live here. Y: Okay. That is all. Is there anything to say? A: no.

Interview No. 2

Part 1

	Timespan	Content
1	0:00.0 - 0:53.7	Y: Ancy, will we make a tour around the island, right? A: full island. from here to that end. it is one kilometer. in between you can talk to the family if needed. A: Did you tell the date? Y: today's date is 22nd april, friday. (cheriya kadamakudy) and 9am.

2	0:47.7 - 0:58.1	Malayalam speaking V: H said “44 acres occupied... when taking the total area it adds to around 134 something.”
3	0:58.1 - 1:44.9	Malayalam speaking
4	1:44.9 - 1:52.6	Turkish explanation and writing down
5	1:52.6 - 2:11.3	Malayalam speaking
6	2:11.3 - 2:51.1	Turkish explanation and writing down
7	2:51.1 - 3:05.5	Y: How long have you been here? Malayalam speaking
8	3:05.5 - 3:26.9	A: He has been here himself. generations and generations before his grandparents here were living there. Y: I am just asking the year. How many years? A: 32 years old. Y: His age, right?
9	3:26.9 - 3:40.6	Turkish explanation, writing down.
10	3:40.6 - 3:48.7	Malayalam speaking V: H said “The situation is that we need to leave here in 10 years due to the rising water level. “
11	3:48.7 - 4:08.1	Y: Within ten years? how does he know?
12	4:08.1 - 4:15.6	Malayalam speaking V: H said “The water level rises every year.”
13	4:15.5 - 4:30.7	Y: they are just noticing that. A: yes. the water level is increasing, meaning they can leave. Malayalam speaking.
14	4:30.7 - 4:37.5	Turkish explanation
15	4:37.5 - 4:58.0	Malayalam speaking V: H said “The water is the most high level during <i>vrischikam</i> (malayalam month during Nov-Dec) Usually the water submerges the low level land only but last time water entered almost all houses here.”
16	4:58.0 - 5:29.8	A: Actually, there is no approximate number. They have been here for a long time, they are living here. so they know. when water rises, it will come inside the home. After ten years, they are calculating, they won't be able to live on this island. like that.

17	5:29.8 - 5:47.5	Malayalam speaking V: He said "The flood in 2018 can be told be less affected here as paddy is all around here and this is the end of Periyar river...the Arabian is over there."
18	5:47.5 - 6:56.1	A: In 2018, the flood came, right? At that time only this island was not affected. Y: not affected?? Was it affected actually? A: It was affected. The water level is not a big problem like other places. A: they had lots of paddy fields. and water has been splitted everywhere. Y: these paddy fields play a role like obstacles, right? A: yes. and that end is the mouth of periyar. main river. so water is continuously going, there is no water problem here.
19	6:56.1 - 7:26.5	Turkish explanation
20	7:26.5 - 7:29.5	Malayalam speaking V: He said "River invasions are not allowed now."
21	7:29.5 - 7:37.5	A: He is saying that "lots of years before, this was actually the river." Y: Here? How many years ago?
22	7:37.5 - 7:48.2	A: 70 years ago, it was a river. Y: But he did not see right? Because he is young.
23	7:48.2 - 7:55.1	Malayalam speaking V: He said "Invaded lands were excused 20 years ago not anymore."
24	7:55.1 - 8:12.4	A: yes. before 20 years, they got this property as their own. because people used to do this bunding. If we keep it for 5 years, it means the government will give this property to you. That was years before.
25	8:12.4 - 8:41.8	Y: Let me explain if I understand well. before it was just a river, maybe 50 years ago, when they got this land? A: 20 years ago. Y: They got this land, this river land. A: Inside they do fishing, after 6 months they do paddy field. Y: But you know, they bought this land with the money?
26	8:41.8 - 8:53.6	Malayalam speaking Y: Do you bought this land with money? V: He said "From government?" Y: Yes, is that bought likewise? V: He said "No, the government used to grant the land to the people who held it till 1991".
27	8:53.6 - 10:07.7	A: In 1991, the government was giving them the properties. not by cash.

		Y: they didn't purchase it. they just constructed the bunds. and after that 5 years, and then government gave this land. It is little bit illegal., right? A: yeah... after 20 years, the government gave this property to these people. Y: Because they are farming. A: They are living from this. so the government has taken initiative to give this property to these islanders. so that they can live. It is like that. It was in 1991. Y: In 1991, the government gave this land. but before 20 years of that, they completed construction of these bunds.
28	10:07.7 - 11:05.3	Turkish explanation
29	11:05.3 - 13:31.0	Y: Who is the owner of this land? A: I was asking that. and he told me it is a guy who comes from Moolampilly. another place. near to this. actually it is not his own property. There is a partnership there. two or three families join together to buy this plot. and they will put the fisher. For 5 months, they will give a lease and it will cost around 1 lakh. Y: they are leasing to another one. right? A: They are leasing to other people. around 1 lakh. Y: for a month? A: for 5 month? Y: which months? for rice farming? Malayalam speaking A: for the fish (November to April) Malayalam speaking A: And they get the money from this. Y: by renting, they are gaining the money. Malayalam speaking. Turkish speaking.
30	13:31.0 - 14:14.8	Y: what is that? A: That is chinese net. Y: No, this one. A: This one actually, they use motorcycle to rise up/ Y: they are using a motorcycle's motor? for what?? A: They are using motorcycles to use chinese net. Y: they are collecting fish in this way. A: with the help of the motorcycle. or else, we have to do it by hand. Y: but it is automatic. but so clever. what do you think Ancy?
31	14:14.8 - 15:02.5	Turkish explanation Malayalam speaking.
32	15:02.5 - 15:29.0	Y: Who is this guy? Do you know that this guy is responsible for this pond or this pond? A: This pond. This is actually a river and this place for fishing. Y: But you know there is another observation house. A: That is their area. Y: okey. which island does it belong

33	15:29.0 - 15:43.0	malayalam sp. A: On this island there is only 4 acres of land. Y: hmm A: another island what is the name? A: Pulikaparam Y: Can you write?
34	15:43.0 - 16:38.5	Malayalam speaking. V: He said "Pulikaparam. Inactual there were 3 families. They faced problems with water availability and power. They needed to come here to fetch water and other things. So two of the families left.the remaining one stayed alone there almost 15 years. A newspaper feature was published regarding this area. Dead bodies in the water get deposited here due to the water currents. "
35	16:38.5 - 17:10.4	A: That is Vypin, Manjanakkad. it is near. but we have to go through the road. This one is Cheriya kadamakudy. and this one is 134 acres. and that one is Pulikaparam.. this is 4 acres of land. some little bit of paddy field. and that one is Manjanakkadu. That is another island.
36	17:10.4 - 18:06.8	Turkish explanation
37	18:06.8 - 18:51.9	Malayalam speaking.
38	18:51.9 - 19:38.7	Ancy is explaining.
39	19:38.7 - 21:36.9	Malayalam speaking
40	21:36.9 - 22:42.7	Turkish explanation Malayalam speaking Turkish explanation
41	22:42.7 - 22:59.2	Y: Ancy, what is that? this one. A: This one. this one is net. A: The water level is increasing, right? they will keep this to keep prawns inside.
42	22:59.2 - 23:21.5	Malayalam speaking
43	23:21.5 - 23:42.4	Y: It is just a sitting area, right? What is this one? Y: this man is sleeping here?
44	23:42.4 - 23:51.8	Malayalam speaking V: He said "Either the owners or laborers. Mostly owners stay as laborers need to be paid."

45	23:51.8 - 24:29.0	A: Some will make employees stay over here. They have to give money to employees. Sometimes owners will stay here at night time. they will not sleep, they will be watching to look after. Y: what is the name of this in Malayalam? A: madum. madum means shelter to look after. Y: Can you write? Because it is important.
46	24:29.0 - 26:38.3	Turkish explanation malayalam speaking.
47	26:38.3 - 27:05.2	Malayalam speaking
48	27:05.2 - 27:10.6	silence, walking
49	27:10.6 - 27:19.2	Malayalam speaking
50	27:19.2 - 27:37.4	silence, walking
51	27:37.4 - 27:41.3	Malayalam speaking... Y: what is the depth of paddy field?
52	27:41.3 - 27:55.6	Malayalam speaking V: He said "It would be almost 6 feet from this level."
53	27:55.6 - 28:03.6	Turkish explanation
54	28:03.6 - 28:15.6	malayalam speaking
55	28:15.6 - 28:35.2	malayalam speaking
56	28:35.2 - 28:42.3	Turkish explanation
57	28:42.3 - 28:56.2	Malayalam speaking A: If we go through this way, we will reach the car. If we go this way, we will reach the end. Y: Is there anything different?
58	28:56.2 - 29:06.0	Malayalam speaking A: same. Y: we can go. maybe we can make a tour
59	29:06.0 - 29:14.2	Malayalam speaking
60	29:14.2 - 29:37.3	turkish speaking

61	29:37.3 - 30:25.2	Y: it is another pond, right? malayalam speaking.
62	30:25.2 - 30:47.5	walking and taking photo
63	30:47.5 - 32:22.5	Malayalam speaking
64	32:22.5 - 32:57.6	Malayalam speaking
65	32:57.6 - 34:59.3	Water noise. Turkish speaking. Malayalam speaking A: They keep this bambu no to... this is african grass here. it will be flown on the water. with this bambu, african grass will not come inside. Y: Ah okey, to prevent to come inside. they are bambu right? A: yes, bambu.
66	34:59.3 - 36:06.4	walking and taking photo
67	36:06.4 - 38:26.8	Malayalam speaking Turkish speaking
68	38:26.7 - 39:23.5	Malayalam speaking
69	39:23.5 - 39:40.8	laughing
70	39:40.8 - 42:57.9	Malayalam speaking
71	42:57.9 - 43:25.2	

Part2

	Timespan	Content
1	0:00.0 - 0:14.5	Y: By the way do you have any additional inpm? Malayalam speaking
2	0:14.3 - 0:23.4	Malayalam speaking V: He said "I do only tile work".

3	0:23.4 - 0:25.7	Y: And he is living here, right?
4	0:25.7 - 0:48.9	Malayalam speaking V: He said "People living here are generally farmers and fishermen. It is people of my generation who go in search of work out of this island. Still not much is educated here as we follow our elders (not educationally oriented). Most are less educated and for daily wages."
5	0:48.9 - 1:12.1	A: He said "here everyone is not so educated but my generation is going to work outside. My father and my grandparents were working here for fishing, paddy field." Y: He is third generation, right? A: third generation. Y: Okay. When did they build their house?
6	1:12.1 - 1:19.9	Malayalam speaking
7	1:19.9 - 1:48.1	A: 40 years ago. He was too young at that time. Y: okay. 40 years ago. How many people live in his home? Malayalam speaking A: Four. he, his wife, his mother and his daughter. Y: grandparents? A: mother is there.
8	1:48.1 - 1:59.5	Malayalam speaking V: He said "Inactual there are only two aged people here who are almost 90 years old. If needed you can meet them now."
9	1:59.5 - 2:18.4	
10	2:18.4 - 2:22.3	Malayalam speaking.

part 3

	Timespan	Content
1	0:01.4 - 0:09.0	Y: I will ask something more and according to him, what are the advantages and difficulties of living on this island?
2	0:09.0 - 0:38.9	Malayalam speaking (he thinks) V: He said "the climate is good. Also we are secured here. We don't need to be afraid of robbery. We really do not need to lock up our homes at night as everyone on the island is familiar. But now as the bridge is constructed it is more

		open to the public and we need to be more cautious. Before that if somebody comes here details were enquired as everyone knows the dwellers.”
3	0:38.9 - 1:13.5	Malayalam speaking
4	1:13.5 - 1:20.3	Malayalam speaking
5	1:20.2 - 1:49.5	Malayalam speaking
6	1:49.5 - 2:11.9	Malayalam speaking
7	2:11.9 - 2:32.3	Malayalam speaking V: He said “ heavy vehicles could not be allowed over the old bridge, only two wheelers. I remember the poor road condition days when school children were taken to the Pizhala island in their casual dress other than school uniforms so that their uniforms would not get untidy”.
8	2:32.3 - 3:19.7	A: Children were going to school in colorful dresses. because if they slipped, their dress would be dirty, right? So mothers would have difficulty. and those mothers put their children in colorful dresses and took them to that side and changed their dress to uniform. Y: Okey. after finishing the road.
9	3:19.7 - 3:21.7	A: It was years before. Y: How many years ago?
10	3:21.7 - 3:49.2	Malayalam speaking A: 9 years before. Y: When was this old bridge built? Malayalam speaking A: V: He said “1987” Y: They are not using this bridge any more, right? A: V: He said “just for drying fish.” Y: Okey.
11	3:49.2 - 4:06.0	Malayalam speaking V: He said “Now as the island is accessible to the public through the bridge diseases have increased compared to before. “
12	4:06.0 - 5:05.2	Malayalam speaking
13	5:05.2 - 5:18.4	Malayalam speaking V: He said “Even Though there have been many changes here, building houses here is a problem as the labor charge to get the materials for construction costs is triple the usual cost. “

Interview No. 4**Part1**

	Timespan	Content
1	0:00.0 - 0:37.3	P: I want to tell you about myself. Y: Of course you can.
2	0:38.3 - 1:06.8	Malayalam speaking P: My name is xxx. I lived on the island. I shifted from there as a part of my work 5 years ago. I own a fish farm on the island.
3	1:06.8 - 1:18.9	Malayalam speaking
4	1:18.3 - 1:30.5	V: I have been staying here for 5 years. Before, I were staying in Cheriya Kadamakudy. I left the island and moved to another place in the city center due to travel problems.
5	1:30.5 - 1:32.1	Malayalam speaking
6	1:32.1 - 2:15.2	P: Actually I am working in local government service.. I am the one conducting the new building construction the government made. I was also working here in Kadamakudy grama-panchayat. I was there for 5 years. Y: before 5 years you were living in Cheria Kadamakudy. V: Yeah. Still I have a house there. Y: Okay and just you moved because of the travel issues, right? A: Yes, yes, he is working nearby so it is easier, more easier. V: My wife is also working. It was taking so much time to get to the island. Y: okey.
7	2:15.2 - 2:44.3	Malayalam speaking A: He is living in the city centre with his wife and son. Y:In this new house, right? A:Yes. Y: Okay. And how old are you by the way? V: 37..
8	2:44.3 - 2:49.7	Y: What is your house name in the island? V: Pashniparambil.
9	2:49.7 - 3:03.2	V: Pashniparambil. (she is writing house name)
10	3:03.2 - 3:08.5	Y:It is the house in Cheriya Kadamakudy, right? V:Yes, in the cheriya kadamakudy. Y: Okay.
11	3:08.5 - 3:20.8	Malayalam speaking (she is asking house number) Y: plot number??? A:Plot number, yes I am asking.

12	3:20.8 - 3:33.6	Malayalam speaking A: That is it, no problem.
13	3:33.6 - 3:40.9	A: His house is near that bridge. Y: Okay. A: When you cross the bridge, on the left side there is his house. Y: Left side.
14	3:40.9 - 3:51.8	Malayalam speaking Y: Is that house rented now? P: No, simply left. Y: Do you have cultivation there? P: Yes. Y: Fishing farm? P: Yes, I own one.
15	3:51.3 - 4:18.1	A: He does farming there. P: Paddy field. A: He has a farm back to his house. Paddy field.... Malayalam speaking
16	4:18.1 - 4:31.0	Malayalam speaking Indistinct words.
17	4:31.0 - 4:58.9	A: This is the bridge. And after turning left, the third house is his. And he is going to sell.(explaining the locatişon of the house) Y: Okay,you are trying to sell your house? V: Yeah. Y: where were you born? Y:On the island, okay.
18	4:58.9 - 5:09.4	Malayalam speaking
19	5:09.4 - 5:17.9	A: He is the fourth generation. Y: Okay. Y:And actually who built this house?
20	5:17.9 - 6:18.1	Malayalam speaking V: My father. Y:Your father. Do you remember the time, the date? V: The time... before just 25 years.

		Y: Okay. 25 years ago. Okay. It is very new, but before this house where did you live? V: There is a big family house there. A: Partition. After the partition. Family partition. V: There is a big family ancestor house there but it was also demolished , it is around my grandfather's house. Y: But is this house still there or V: No no. It is in another land. V: It has been demolished already. V: Now there is no home. That was my previous home. that was transferred to my grandfather. My father's father. Y: And...Okay. 25 years ago, he built a new one.
21	6:18.1 - 6:45.5	P: in malayalam we call it 'tharavadu' (ancestral home). the place, home that has been done like... what to tell.. all family members have been living there at that time before partitioning happened. That is the main house. for every function, they gathered there. V: Family house.
22	6:45.5 - 7:03.7	Malayalam speaking Y: So how old was that house? P: It would be 10 years since it was demolished. So calculating the years before it, nearly 50-60 years old.
23	7:03.7 - 7:16.6	A: 60 years...that house was 60 years old. V: Actually my old house, my family house, was demolished 10 years ago. before that time it was around 50 years there was that house.
24	7:16.6 - 7:20.9	Malayalam speaking
25	7:20.9 - 9:14.7	A: I was asking him that before... to build this new house, was transportation for materials difficult? V: So difficult. through by boat. materials can come with a boat. A: Because before you built that house, like, that bridge was not there. He had to get materials through the boat. Y: They were constructed 3 years ago as I have known. V: Before my father generation to my father generation there was only boat service was there Y: How often did they go to the mainland during the day? V: My father was a policeman. He was a cop. Grandfather was actually a farmer. I mean fisherman. and... I mean,, he was cultivating and selling. He was a simple farmer.
26	9:14.7 - 9:35.0	V: I think 500 years of history was there. Actually not far from high 500 years.
27	9:35.0 - 9:54.8	Malayalam speaking P: Cheriya kadamakudy is a land formed by river silts. It would probably be 500 years ago.

28	9:54.8 - 10:31.2	A: Actually, he is saying that, before 500 years, actually that land was like... sand was coming continuously and that land had been formed. it is not like manmade. You know that it is naturally built up on its own. Y: Ha ha. A: Actually before 500 years it was just a river. And the sand goes to... Y: accumulating.... A:yes. accumulating day by day and years by years and that so that land is now just like that. Y: How do you know this information?
29	10:31.2 - 10:32.8	Malayalam speaking
30	10:32.8 - 11:09.0	V: It is like in written history. It is not, not far from this land actually. It is starting from its name called Kadamakudy, right? Kadamakudy means house of farmers. It is the meaning of that. A:Okay. Y:What does cheriya mean? V:Cheriyā means small. A: Means small. Y:Small. Okay. Small farming area. A:Kadamakudy meaning? V:Kada means sea. A:Sea. V:Sea. V:Kada means sea, kudy means house. Y:Okay.But how did you know this, you know?He said....
31	11:09.0 - 11:11.7	Malayalam speaking
32	11:11.7 - 11:20.5	Y: Where did you get information about 500 years ago? V: I read about it .
h	11:20.5 - 11:25.2	Malayalam speaking P: I mean 500 years since humans settled on this island.
34	11:25.2 - 12:01.9	V: I just read some books and from my memory...
35	12:01.9 - 12:24.5	Malayalam speaking P: Such information would be there in some archival documents. For instance, the museum of Paliath palace(house of the prime ministers of Kochi kingdom) might have its sources.
36	12:24.5 - 12:32.8	P :I do not know any book was there , I just read some journal or something like that.
37	12:32.8 - 12:59.2	Malayalam speaking.
38	12:59.2 - 13:18.4	V:Yeah right. My forefathers first came to the land because there was a rich productivity there. A: Because in 6 months you get fish and other 6 months paddy field.7

		Y: Yeah, rice. A: Climate is good, right?
39	13:18.4 - 14:22.8	Malayalam speaking
40	14:22.8 - 14:36.2	Malayalam speaking P: Water used to flow easily without any obstacle before a reservoir like Mullaperiyar was built. Before that Water level variation was high.
41	14:36.2 - 14:55.8	A: Before here, we had a main dam. a dam means we store the water in there. It is manmade. V: Water dam.
42	14:49.6 - 15:46.0	A: Actually the dam is manmade. In that we store the water. And when the rain comes, we collect the water in it. A: Okay. Before the dam, Actually water flows high and the water level has been like.. there will be variation of the water level.
43	15:46.0 - 16:35.5	Malayalam speaking
44	16:35.5 - 18:05.1	A: No... V: Because of that, because of the dam, I mean the flow was less, I mean the water flow.... They can control the flow outcome. V: I am saying that there is a reason for staying in the islands, because they are comfortable. Before I mean before dam construction before 200-300 years back, man cannot live there because when monsoon comes, there will be rain. A: And water level will increase And people cannot live over there. So it is very difficult day by day they have to change right? And that is how they stay there.
45	18:05.1 - 18:50.3	Y: okay. Because of the changing the water level people cannot survive and people cannot live there for a long time A: Yes yes. Y: But you were saying something beautiful. You know you said land is forming, you know because of the tide, wind... V: I will come to that. Y: Okay can you continue?
46	18:50.3 - 19:02.4	Malayalam speaking
47	19:02.4 - 20:07.9	(He is drawing at the same time) V: You can imagine. this is a land just by sand and something. made by this land. In the surrounding area, there is no depth. Y: Depth? V: less depth. Because of this less depth, man can create a farm. I mean they can create a band there because of that less depth. in the surrounding area, it is around 1-1.5 metre height, in high tide times, it increases but mainly it is a 1.5 metre depth. So that they can create a bund. it is land, it is a river, a less deep river. After this area, there is a high depth river. after this area, a high

		depth river. So that they create a bund. Okay? And then they can start constructing a gate there.
48	20:07.9 - 20:11.4	V: Okay? And then they can start constructing a gate there.
49	20:11.4 - 20:48.5	A: Yeah. We have seen that. Y: near the observation house. V: Okay. They create a gate so they can also control the waterflow. How they can control the water flow means that high tide comes under the water. I mean they can control the flow. Then after low tide comes, then low tide comes they also control the with gate (referring wooden sluice).
50	20:48.5 - 20:53.6	Malayalam speaking
51	20:53.6 - 21:15.1	A: Just wood. V: That is a wood gate. A: Actually, so we saw there, right?. So after it's done, they will close the gate. That gate is actually made wood. Y: Yeah I know.
52	21:15.1 - 21:26.9	Malayalam speaking
53	21:26.9 - 21:39.6	V: Shall I start? Y: Yes yes yes. V: Okay then, it is around.... you can imagine that it is only 1 metre or 1.5 metre depth..
54	21:39.6 - 22:13.0	V: Then water flow is controlled with this gate. Okay after that, Six months saline and six months fresh water. . V: It is an estuary, right? Do you know about estuaries? Y: yes.
55	22:13.0 - 23:10.3	V: Because of the high tide, sea water comes. Okay. And low tide comes, low tide means; the water will go to the sea... back to sea. and the river, water from the main river means fresh water, fresh water flow, comes to mountain and periyar. Then come to this estuary. That means in this area, water will always mix. Saline water and fresh water mix here. That is what we call an estuary. It is an English word. Main thing is that in 6 months there is saline water and 6 month time fresh water. From November.....
56	23:10.3 - 23:36.6	Y: May? V: June. around June, it is salty. Y: Fishing time. V: It is summer time. It is fishing time. After June starts, it rains here. from june to around.... V: From June to august. August is the paddy time. Because it is fresh water time. Y: Okay.

57	23:36.6 - 24:14.9	V: So that during the saline time, in this bund, they cultivate prawn and fish. After fresh water comes, it is a paddy time, specifically pokkali. Y: It is a kind of rice. V: It is a paddy name. I mean this paddy is specific is that, It has grown up to 1 m-1.5 m. Normal paddy is a half metre, right? you can see.
58	24:14.9 - 24:23.2	Malayalam speaking A: I will show you on the video, right?
59	24:23.2 - 24:38.5	Y: Okay. And you are doing it from June to August, right? V: Yeah, June to August is the paddy time. Because there is fresh water. Not much, i mean, prawns and fish can grow A: not salty. fresh. Y: Okay, fresh, fresh water.
60	24:38.5 - 25:05.0	V: It is only, in this pond, they culture only paddy, culture only paddy. Okay. This paddy is specialised so that paddy can be fully grown in 90-91 days. it can be fully grown. A: It takes time to harvest. V: harvest time will be in 90-95 days. It means 3 months.
61	25:05.0 - 25:16.0	V: In saline time, they culture prawn. how they culture prawn means that they also open the gate in high tide time. f
62	25:16.0 - 25:30.9	Malayalam speaking (He is asking what young fish and prawns called)
63	25:30.9 - 25:41.0	Malayalam speaking
64	25:41.0 - 25:44.0	Malayalam speaking
65	25:44.0 - 25:56.4	A: At night time, they put a red light. And the fishes will come. Y: You said, they are coming naturally right? V: Yeah. A: Yes. Y: They said. V: in this gate, they put a red light, or colourful light.
66	25:56.4 - 26:43.0	V: prawns come to red light. And when they see the light, they enter paddy-field and they settle here .That means.... how the man culture is that we open the gate but no one can escape from this because... A: Because they have put the net in that.
67	26:43.0 - 26:58.1	V: When another low tide comes, water will flow outside, right? Then they put a net here. Y: In this way they cannot escape. V: Because of that no one can escape.

68	26:58.1 - 27:04.9	Malayalam speaking
69	27:04.9 - 27:19.8	V:Okay. This is a basic culture. V:So that they create a pound here around the island. V:And they are living there so that they can do some fishing. They can paddy and fish also.
70	27:19.8 - 27:44.2	V: Malayalam speaking
71	27:44.2 - 28:32.0	A: We get good prawns from this area. V:Large amount of prawns was there. because. Do you know the importance of this area? They come from the estuary. This area is rich with minerals. That is why they come to grow here. There are rich minerals here. V:Because, from the water xxxx rain and they come xxxx minerals rich minerals also there.
72	28:32.0 - 28:45.8	V: This island also is limited by mangrove trees. mangrove trees means, did you see mangroves there?
73	28:45.8 - 28:50.7	malayalam speaking
74	28:50.7 - 29:12.4	A: We saw little tiny trees over there on the site. that one he is telling about that. Y: yes. A: Yeah that one.... V:These trees also help to grow fishes. small fishes. A:The fishes... A:They can hide inside. V.They can hide inside..it is... A:They can make their own home over there.
75	29:12.4 - 29:26.7	A:In the roots of those trees, actually they pre-grows in the water and half in the water half in the sand. Y:Okay. You mean, you know at the bund right? A:Yes, yes. Site on the site. Y:Ha ha,okay.
76	29:26.7 - 29:56.9	V: If you are confused with this, we can go and see. you will understand, okay. I am saying that, you have to know the life of the people .So that people are related to this farming. For 6 months they cultivate paddy fields.
77	29:56.9 - 30:50.0	V: So that these people attach to these farms. only farms. because they get sufficient paddy and they get sufficient fish. Y: Okay.

		V: That is how easy that is how they created life here on this island. Because the production was high .I mean can actually production was high due to this estuary . So they can collect the and export them. It is income for these islanders.
78	30:50.0 - 31:01.1	Y:Yeah. V:Then, around a hundred and fifty years how this..... for these peoples are living related to this paddy life.
79	31:01.1 - 31:15.8	V:Are you imagining a picture of the island? Y:Yes yes I understand actually. It was such a beautiful explanation. Thank you. And you know it is proper land. V:Yeah.It is. Y:And you know, it is registered land. And this one is river land. V:River land.
80	31:15.8 - 31:25.2	V: it is registered. It is just too, the characteristics of land are only for paddy.
81	31:25.2 - 31:42.9	V:You cannot fill in with sand here. You can only for culture, only for farming. Not only for staying here. you cannot construct any house there. Y:Okay. Do you think there is any transformation? You know from the land to the paddyfield? Is there any filling?
82	31:42.9 - 31:50.9	Malayalam speaking
83	31:50.9 - 32:05.0	V: It is also there. because of increase in population, naturally these lands are converted from the farmland to residential land Y:Yeah I am asking....
84	32:04.1 - 32:41.0	V: before 2008 if you filled your paddy field, you can use it for residential land. Y: it was happening before 2008?
85	32:41.0 - 32:56.2	V: 2008. The Kerala government prevented it in November 2008. After 2008, you cannot change the land or convert the land. Y:Okay,okay how were they converting do you know? Before 2008?
86	32:56.2 - 33:29.1	V: They just converted with the sand from the river to fill the land and construct a home there. After the filling, the local self government office, I mean panchayat office issued a number. Y: Okay but you know. When they were obtaining this land you know this soil to fill this paddyfield you know ?He said they are putting the soil to the paddyfield and they are forming a land right? V:Yes. A:Yes.

87	33:29.1 - 33:32.3	Y:How do people obtain this land?
88	33:32.3 - 33:37.1	Malayalam speaking
89	33:37.1 - 34:11.6	V: From the river. A: From the river itself. If they take the sand from the river, they get..... V: I mean sand from the river by collecting through boats and filling it. A:And they can fill. Y:In this way were they extending their land to the paddyfield right? A:Yes.They converted that paddyfield into a living area. Y:Okay. Was it often? A:No...it was done before..2008.
90	34:11.6 - 35:22.8	V: It was often because of the population increase. The government noticed the scenario and stopped over there. After that it is not possible to convert paddy fields to residential land. A:Because if anyone does like that, the government has lots of legal issues. And they will break those sand, they will break the walls of that. And everyone has their land boundaries. It is registered in the office like I have this much property and they will check whether it is right or not. A: If it is more, they break it. that is it. Y:You know you said they are building the this bund. V:Yeah. Y:And after that they are filling the this paddyfield in this boundaries? V:Yes. Y:And everybody has their own paddyfield, right? V:Yeah. Y:On the site. And in this way they were extending to the land but before.
91	35:22.8 - 36:16.1	V. it is a fully created by man. Farms carefully created by humans, i mean man. Y:Okay how they were constructing this bund do you know? V:Yes, I mean... A:Putting soil on top.. V: 2 sites.There is a....I mean there is a river. I told you before it is a.... depth was less. Y:Yes.
92	36:16.1 - 36:52.3	V:It is only 1 or 1.5 metre maximum. Y:yes. V: So that a man came into the water and just started making small bund in the river. There is a time, tide high tide or low tide time is there. In the low tide time there was only, I mean ,below 1 metre. Y:yes. V:So that they were easily doing this process. Y:Haha.

		V:Because water was not there during Low tide time. During Low tide time water goes to sea.
93	36:52.3 - 37:06.9	Y:And which time in a day do you know? V:It repeats every month. because it is .. tide is related to the moon. Y:Ha ha. V: every year, it will change. Y:It changes. V:Changes.
94	37:06.9 - 37:18.3	Malayalam speaking P: Since people started living here...probably 300 years ago.
95	37:18.3 - 37:46.3	V: They started creating paddy fields. Y:Okay. And you know you said the level of water is increasing and decreasing in a year. V:Yeah. Y: It is changing. V:Yeah. Y: You know, what about... V:It is changing every month. Because it is about the moon. Y:Yes. this bund you know the fisherman needs to make this bund every year or it is remaining, you know. Did you understand?
96	37:46.3 - 37:50.9	malayalam speaking
97	37:50.9 - 38:29.3	V: Yeah, bund will be modified. Y:Okay the boundaries are the same but they are modified every year. A:Yes, they are putting more and more. V:Yes.So so. Y:Okay, okay. I understand actually.
98	38:29.3 - 38:43.6	Malayalam speaking
99	38:43.6 - 38:48.3	Malayalam speaking
100	38:48.3 - 39:11.9	(unrelated speaking about the location)

Part2

	Timespan	Content
1	0:00.0 - 0:56.9	Y:Okay, what is the next question? And do you know if there are any places where people are gathering and meeting with the other people from the is-land. Is there any specific place for that?

		V: There are around fifty homes, houses are there. On this island, the majority of families is christian. And there are approxamilty 10 hindu families. Y:Yeah.I know. V:There is a small church there. It is only sundays. A:Sundays only.
2	0:56.9 - 1:20.7	V:Sundays only because praise comes from the mainland from moolampilly. this is a sub-church actually because there are 50 member So there is a sub church. A: The festival I told you about is the Saint Sebastian festival. V: Saint Sebastian A: Saint Sebastian Y: In February? V:Yes.
3	1:20.7 - 1:25.7	Malayalam speaking
4	1:25.7 - 2:05.6	V: It is a church, festival time is the main gathering time.. after another time is a marriage. A: marriage, funeral. V: marriage or funeral. Y:And do you mean that all of the things happen in the church? V: Yeah. Every Sunday there is a mass so that... A:After that, people all come together after the mass. Y: Is there any place for children or women for daily things?
5	2:10.3 - 2:14.5	malayalam speaking
6	2:13.4 - 3:31.2	A: We just see in church only. Noone is gathering. V: Now we have government policies like kudambasare. A: Kudambasare.. the government has a plan for house women. V: Housewives. A: They can earn money. V: Every woman makes their own money. It is called kusambasare. It is a government plan. in this plan, For example, they clean the road.They clean the road. Every woman there is selected from ten or fifteen womens in this island. A: In particular. V: Cleaning the ground. cleaning roads.. and government issued daily amounts. A: It is wage.
7	3:31.2 - 3:40.4	Y:For cleaning the road? A:Yeah.Just he is saying, he is telling the example. Y:But not on the island right? A:Yes.. it is on the island. Y:And you mean it is cheriya kadamakudy road? V:Yeah. A:Yes. That is the road. Yes.

8	3:40.4 - 4:39.8	V: Every ward has a kudumbasare unit there. The government selected the unit. I mean 10-15 women. Housewives. They are doing other jobs so they selected 10-15 women to do this to create a unit. And see the unit government found a.. government plan for a work. Simple work. Just clean the road or just clean the site. I mean.. any farming... Farming any.. Any farming later. Or they can own ... create their own ownership. They can take loans from the government. Y: Can you note this word, you know for the woman? A:Yeah, I know that kudumbasare. It is common everywhere. Y:Okay.Just write it down i can take it. And you know this old bridge.You know there is a new one. And do you know when they did the old one, just pedestrian one you know?
9	4:39.8 - 5:19.1	V:Bridge? Y:Yeah. V:You are saying that. Y:Yeah. V:Before that one bridge was a wooden bridge. Y:And you know when they do this old bridge? V:Amm I mean..you know... Y: You know this old bridge. V:Old bridge, okay. Y:And when did they do this bridge? Do you know the date? V:I think that new bridge was built in 1984. New bridge was constructed. 20 years before the wooden bridge. (there was another one before the current old pedestrian bridge.)
10	5:19.1 - 5:54.7	Y: Which one do you mean? I didn't understand. You know this metal bridge, it is very new. V:Not a.. iron bridge was there. That was too new. A:Before that. It is a small bridge. We saw the dried prawns and coconuts. V: It is a concrete bridge, main bridge (old pedestrian bridge). the new one is that one. Y:Okay, okay i know. You know this old bridge is constructed 1984 you said? V:Yeah 1984. Y:Okay. V:Before 1984 there was a wooden bridge there. Y:Really? V:Yeah. Y:Okay, I didn't know that.
11	5:54.7 - 6:00.8	Malayalam speaking

12	6:00.8 - 6:51.1	V: There is a Panchayat office. T:Yes, yes. Y:Yeah in Pizhala, right? V:I was there for 5 years. Y:Yes yes yes. He said actually. And you were here for 5 years.And you know, we went to this place and they just gave us a booklet. Y:You know about the tourism project. V:Tourism project? T:Yeah. Y:That is one we have. We did not have anything apart from that. V:Okay. I think so, everything is malayalam. Y:Yes yes.
13	6:51.1 - 6:55.4	A: Malayalam and a little bit of English, right? Y: Yeah.
14	6:55.4 - 7:40.5	V:Yeah if there are any English words.. I will tell you. Y:Thank you, thank you.And you said there is a wooden bridge before this old pedestrian bridge. V: I don't think there is any photo. Maybe I can ask another one for a wooden bridge, but I don't think so. Y:Okay, it was wide or narrow bridge? You know it's just for pedestrians right again? V:Yeah, pedestrian. A:Pedestrian and also for the two wheelers.. motorcycle. And the normal cycle. We have a cycle. V:I think that at the time of the wooden bridge there were no motorcycles on the island.
15	7:40.5 - 8:22.2	Y:Yeah.In that time. A:Yeah. Y:Ha ha. And you know what were the good things about living in the Cheriya Kadamakudy? V:Good things.. Y:Yeah. V: Good things...first come the good thing means ... The first one is safety. Because there is only one way to come to this island and it is surrounded by water. people can feel safe. there is no one. no thief in the history of the island. because it cannot come easily. A: Noone can come easily right? Y:Yes.
16	8:22.2 - 8:57.8	V:Before 45 years, I mean, 10 years back you had to come by boat to Pizhala after you had to walk from the Pizhala to Kadamakudy. Around 1 kilometer. Y: There was no boat to directly to Cheriya Kadamakudy.

		V:Yeah. Government boat service is only in pizhala. Y:You said 10 years? V:Yeah. Before..
17	8:57.8 - 9:32.2	Y:And you know, is there any way directly through the boat... V:But the private boats are always there. Y:Okay okay. V:Always by own on boats but I mean the service boats. Y:Ha ha. V:Through the government only in Pizhala so that we have to go there. (food came in restaurant)

Part3

	Timespan	Content
1	0:00.0 - 1:46.0	Y: Do you know anything about the history of the island? you told me a little bit but.. V: Land was created by water flow. I mean sand sediment here. not any large huge history in this island. After the mainland was created, gradually people used to come here. for fishing people came here. Maybe my ancestors were the first ones to come here. not my grandparents. It is around 400-500 years maximum. Y: It has been a long time. Y: In Kerala flood, in 2018, were you on the island or not? V: In the flood? I was still there. water came. one meter high. That is all. one meter height.
2	1:46.0 - 2:20.3	V: There is another huge flood.
3	2:20.3 - 2:26.4	Malayalam speaking Y
4	2:26.4 - 2:33.0	Malayalam speaking
5	2:33.0 - 3:12.7	V: mangroves can help flood. there is law there. We cannot cut the mangroves. you cannot construct a home near mangroves forest. Y: You cannot cut mangroves. Is it a rule? V: it is law.
6	3:12.7 - 3:46.0	music voice. Food came. Malayalam speaking
7	3:46.0 - 4:03.8	Y: What about the disadvantages of living on the island? Silence

8	4:03.8 - 4:52.1	V: first time they came.. first ancestors.. do you ask why, right? because why did they come here to live? that is why you are asking this question?? reasons of coming to this island? what is your question meaning? Y: You can tell. Why did they come to this island? V: Because prawns. That's why they came. Y: In the past, how were they providing drinking water?
9	4:52.1 - 6:28.4	V: They were collecting drinking water from the other island, the main island and they constructed a small pond.. Y: and they collected from there. V: Or they collected from the rain. put a cup in an open area and collect it. Before that they collected by boat from mainland. 40 years back. Y: I heard something. The church had pipes. people were collecting water from here. Do you remember? V: Yeah. I remember. The first time, there was just one pipe. it was on the old bridge side. after connection. Y: Every house has a connection. ah sorry please eat. i will ask later.

Part4

	Timespan	Content
14	16:35.2 - 16:48.8	Malayalam speaking V: Pashniparambu means famine land. (Trying to explain the meaning of his house name)
17	19:10.3 - 19:20.1	Malayalam speaking (Discusses the meaning in between and tells that the name means scarcity of food.) (To be precise it can be said as famine land. V: Pashni means famine and parambu means land)

Interview No. 5**Part1**

	Timespan	Content
1	0:00.0 - 0:17.9	Y: What is your name? A: xxxx Malayalam speaking Y: What is the number and name of the house?
2	0:17.9 - 1:03.5	Malayalam speaking V: He says "It's a temporary house number - xxx" Y: Why you don't have a permanent house number? V: He says "I didn't get one because as I was working abroad I was not able to complete the mutation of the property. Thus a permanent house number was not given."
3	1:03.5 - 1:25.7	A: Actually the number of this house is temporary, not permanent. He was outside, working in some other country. and at that time, he built this house in between. It was difficult for him to get a new number. so this is temporary.
4	1:25.7 - 1:31.8	Y: Is there any house name? A: Pashniparambil
5	1:31.8 - 1:56.7	Malayalam speaking (Ancy is asking about another islander because house names are the same.) A: This guy is his brother's son. Y: Do they have the same house name? A: That is why I asked him.
6	1:56.7 - 2:23.4	Malayalam speaking
7	2:23.4 - 3:09.3	A: He is the 4th generation. Y: How long have you been here? Malayalam speaking A: He was born and grew up here. Y: How old is he? Malayalam speaking A: He is 56 years old. Y: What is your occupation? A: Now he is fishing. He is a fisherman. Malayalam speaking A: He was working in Saudi. Malayalam speaking Y: When did he come back? Malayalam speaking A: Now it is his 6th year. Y: How many years did he work in Saudi?

		Malayalam speaking A: 22 years. Y: Okey.
8	3:09.3 - 3:42.1	Y: He came back 6 years ago... okay. Could you tell me about yourself a little bit more? Malayalam speaking
9	3:42.1 - 3:51.6	A: 4 people are staying in this house. Y: Who are they? A: He, his wife, his daughter, and his daughter's daughter.
10	3:51.6 - 4:36.3	Malayalam speaking Y: What did you ask? A: We saw a girl. This girl is her sister's daughter. She is not living here. Here he, his wife and his two daughters are living. Y: Okay, they are 4 and this is their own residence, right? Who built this house?
11	4:36.3 - 5:10.2	Malayalam speaking A: He built this house. Y: When? Malayalam speaking A: 10 years ago. 10 years ago, this house was built. Y: But he was working in Saudi Arabia, right? How did he build this house?
12	5:10.2 - 5:22.0	Malayalam speaking
13	5:22.0 - 5:31.4	A: He came here for 6 months leave. Y: And during that time he did. Can you describe your typical day on the island?
14	5:31.4 - 5:45.6	Malayalam speaking V: He says " I have a Chinese net. During summer, I go fishing in the evening and return the next morning."
15	5:45.6 - 6:32.0	A: He has a chinese net. and he.... this is his wife. Y: Nice to meet you. What is her name? A: xxxxxxxxxxxx. Y: Nice to meet you. I am yagmur. Malayalam speaking (tea is being served)
16	6:32.0 - 7:17.3	A: He has a chinese net. He is fishing there. so He leaves that house at night. and in the mornings he comes back. so at night time, he will be in the chinese net it-self. Y: sorry. He goes to the Chinese net in the evening. Does he sleep there? A: No. He works there. Y: Then he comes back home to sleep.
17	7:17.3 - 7:33.3	Malayalam speaking V: He says "Return would probably be 7 in the morning for selling the prawns caught at the Pizhala market."

18	7:33.3 - 8:07.3	A: After he collects the fishes, he will take these fishes and prawns to the Pizhala near the Panchayat. Y: And he is selling those. A: yeah and after that he comes home around 8 (am). Y: which time is the best for fishing? When is he going fishing? Malayalam speaking
19	8:07.3 - 8:19.9	A: It depends on the climate. He can start from summer until April untill rain starts. Y: I am asking the time during the day.
20	8:19.9 - 9:55.6	Malayalam speaking V: He says "At night only." A: night time. because prawns are attracted to light. So in Chinese nets, they put a light in the middle of the chinese net. Y: What is he doing in the morning? A: He produces fish in small places. in the.... Did you see a blue cage there? He puts baby fishes inside them and fishes grow. if it is done, he takes, Y: he feeds fishes there. A: it is his cage. Malayalam speaking Y: Do you need a permit for it? V: He says "The Fishery Department monitors it and also allows subsidies for it." A: He is saying that to put it in the river he needs to get permission from the Fishery Department. and he has that. with that license, not license, with that permission, he does that and he gets subsidies and benefits of that, they provide baby fishes to him and he can get... Y: Is the government supporting him? What kind of support exactly?
21	9:55.6 - 10:25.0	Malayalam speaking V: He says "When we finish the first phase like making the nests and all the department grants an amount of 1 Lakh. Later after one year, calculating the amount of feed and all subsidies is given. Likewise we shall get it for 2 years."
22	10:25.0 - 11:04.3	A: Okay, he is saying that after building these cages, the government will provide 1 lakh. After 3 years.... Malayalam speaking A: After 3 years, he gets 30 000 each year from them. and that is how he can feed the baby fishes and get money. that is called as 'subsidies' Y: Can you write please?
23	11:04.3 - 11:58.3	Malayalam speaking V: He says "We shall get Rs. 1 Lakh initially. Then Rs.30000 to 32,000 annually for 2 years. The amount varies. The scheme is for 3 years. 1 Lakh + Rs. 30000 + Rs. 30000. It is how the distribution is.1

24	11:58.3 - 12:11.7	Y: After May, do you cultivate rice? A: It is just for fishing. Y: which one? A: we saw a blue thing in the river Y: yeah but Do you have your own paddy field?
25	12:11.7 - 12:26.5	Malayalam speaking I dont have my own. I do fish farming with a person in partnership on my prop- erty in the backside.
26	12:26.5 - 13:17.3	A: He has a pond at the back. it is given by another guy with the share. Y: But in front, he is fishing. A: Actually on this island, people can live with this. they don't need to go outside. Y: That is why I asked. A: He is getting money from there. He does not need to involved in that. Y: how is your relationship with the others on the island?
27	13:17.3 - 13:29.3	Malayalam speaking V: He says "Almost all families here are our relatives. "
28	13:29.3 - 13:41.3	A: Majority of houses are his relatives. Yesterday we saw a guy. Y: xxxx?(saying another islander name) A: Yeah, xxxxx. their house names are the same. They are relatives. He says that it is like that.
29	13:41.3 - 13:56.2	Malayalam speaking V: He says "People from this side to 5-8 houses there are our close relations like they are my fathers siblings and their children."
30	13:56.2 - 14:16.5	A: From that house until 2-3 houses back, it is the same relationship. Y: Okay, in which situation, do you meet with others?
31	14:16.5 - 14:37.7	Malayalam speaking
32	14:37.7 - 15:30.2	A: In older days, everyone used to gather for every function. If there was a fu- neral, everyone would be there. before marriage, they were cooking here in their houses itself. It was like that before. Now everything is different. catering is here. Y: Is he telling? or are you telling? A: He said if church festival times come, everyone will gather. Y: In St Sabastian Church? A: yes. also in onam festival, hindu festival. One of the main festivals in Kerala is Onam. Y: Are they celebrating on the island? A: yes.
33	15:30.1 - 16:11.0	Y: What are the good things about living on this island? Malayalam speaking
34	16:11.0 - 16:47.7	A: He is saying that when compared to city life, city life is pretty expensive. We need to buy everything. here, they get fish, coconut, they can collect everything from there.

35	16:46.5 - 17:00.0	Malayalam speaking
36	17:00.0 - 17:25.4	A: Before that, he told me that it was difficult to come here, travel. They had to go to ferry in Pizhala and from there they had to walk, and from there they had to get the boat and then again had to walk. Now it is easier. A: What are the difficulties of living on this island?
37	17:25.4 - 17:37.9	Malayalam speaking
38	17:37.8 - 18:00.7	He is saying that before the bridge was constructed, if something happened like illness, at night it was very difficult to go to hospital. Now they have a car and everything. Y: Before, how did they reach the mainland in case of emergency?
39	18:00.7 - 18:07.5	Malayalam speaking (Ancy is asking)
40	18:07.5 - 18:33.6	Malayalam speaking
41	18:33.6 - 19:03.6	A: He is saying that if something happened, there was a boat. They were getting in the boat and they were reaching Moolampilly, another island. and there they could get a taxi. Y: In the past? A: Right. Y: Now they can reach. How do you get drinking water?
42	19:03.6 - 19:05.7	Malayalam speaking (ancy is asking)
43	19:05.7 - 19:26.8	Malayalam speaking V: He says "There has been a shortage of water for 2 years. We get water on alternative days so we need to collect and conserve for essential needs".
44	19:26.8 - 19:53.9	A: He is saying that drinking water comes only...today drinking water is there but tomorrow it won't be. one between days water won't be. Y: Okay. it is coming through the pipe, right? A: yes.through pipe Y: One day is coming and another day is not coming. Why is it like that?
45	19:53.9 - 19:56.3	Malayalam speaking (ancy is asking)
46	19:56.3 - 20:33.7	Malayalam speaking A: I will show you that.
47	20:33.7 - 21:23.3	Y: what is that? A: He is telling me that there is a main tank over there. When we came through this road, we saw a big thing. That is the main tank. water is supplied through that to lots of people in the island. if they give the water continuously, water scarcity will be here. to prevent that, they do like that.
48	21:23.3 - 21:28.1	Y: What is he doing when water is not coming?

49	21:28.2 - 21:48.8	Malayalam speaking
50	21:48.8 - 22:07.4	A: Before the house connection was there, a public tank was there. if there was any problem, if they were not getting, they would take the water from the public tank. but now there is no public tank over here. Every house has its own connection and water is supplied every other day.
51	22:07.4 - 22:11.2	A: So it is not a problem he is telling that.
52	22:11.2 - 22:23.9	Malayalam speaking V: He says "It's a single line of pipe connection and each house has a private tap in their compounds connected from it. So if there's no water coming in, it affects everybody."
53	22:23.9 - 22:51.9	A: The main pipe is coming through this. one pipe is for every connection. in between for each house. one pipe is there. the problem is for the whole island. Y: how often do you leave the island or go to the mainland?
54	22:51.9 - 22:55.7	Malayalam speaking (ancy is asking)
55	22:55.7 - 23:12.7	Malayalam speaking
56	23:12.7 - 23:36.6	A: It depends on his job. If others have a job, they will go in the morning and come back in the evening. If you ask for fishermen, they will live here. and if you ask for groceries? Y: Why do they go to the mainland?
57	23:36.5 - 24:00.7	Malayalam speaking
58	24:00.7 - 24:31.3	A: He buys these things from a nearby market. not here. (showing some snacks and drinks) Where? A: It is in xxxxxxxxxxxx. I know this place. if they go to xxxxx, but in an emergency, they will go to Pizhala. near that panchayat, there are lots of shops. so if there is an emergency, they will go there.and they don't need to buy fishes, they have from here.
59	24:31.3 - 24:50.8	Malayalam speaking A: For the meat, he will get it from Pizhala. in this island, there is nowhere to take it.
60	24:50.8 - 24:58.3	Malayalam speaking
61	24:58.3 - 25:08.0	A: Here there is one small shop. Y: in the island? A: Yes, in the house itself. if there is any problem, they can go and buy from there.

62	25:08.0 - 26:09.9	Malayalam speaking
63	26:09.9 - 26:10.9	Malayalam speaking
64	26:10.9 - 26:24.6	Malayalam speaking Turkish speaking
65	26:24.6 - 27:08.8	A: He is telling me that here there is a lady, she is selling small things on the island. Y: where is it exactly? A: A little bit far away? Malayalam speaking Y: Okay,... how has your life changed after the construction of the Navy bridge?
66	27:08.8 - 27:22.3	Malayalam speaking V: He says "If it was not constructed the old bridge would have been broken a long time before."
67	27:22.3 - 27:57.2	A: He is saying that because of that new bridge, it is easy to come here directly from there. if it was an old bridge, it could be spoiled. now it has gone, right? it is fully damaged. if the water level is low, I will show you. the pipe is totally damaged.
68	27:57.2 - 28:05.5	Malayalam speaking
69	28:05.5 - 28:29.8	Ancy is speaking on the phone.
70	28:29.8 - 28:48.4	A: He is saying that before the navy bridge, they can only take two-wheelers inside, not the car. That is the benefit. If something happens, it is easy to travel. Y: Do you know when they built an old bridge?
71	28:48.4 - 28:59.8	Malayalam speaking V: He says "In 1983."
72	28:59.8 - 29:03.0	A: in 1983-1984 in those years.. Y: Who built?
73	29:03.0 - 29:11.2	Malayalam speaking V: He says "I was also a part of its construction work. I was one among them in making the rails of the bridge."
74	29:11.2 - 29:18.6	A: He was part of the building that bridge. Y: really? Who built this bridge?
75	29:18.6 - 29:30.8	Malayalam speaking V: He says "A person named xxxxx, a contractor from Pizhala.
76	29:30.8 - 29:50.9	A: contractor's name is xxxxx. His house is in Pizhala. Y: I am just trying to understand if the islanders or government fund this old bridge?

77	29:50.9 - 30:13.1	Malayalam speaking A: government. Malayalam speaking
78	30:13.1 - 30:16.8	Malayalam speaking
79	30:16.8 - 30:57.4	Malayalam speaking Y: Can you say again? Malayalam speaking A: I will tell you, right? after one minute. Malayalam speaking
80	30:57.4 - 31:19.4	Malayalam speaking V: He says "When xxxx (person name) was elected from our constituent assembly, he built the bridge. He had a consideration for the island.
81	31:19.4 - 32:38.0	A: In 1983, this guy was selected from this whole area that is from Njarakkal. he was selected as MLA (member of the Legislative Assembly). MLA means... After he won, he made a special effort for this island. He saw the difficulties over here. That is how he built that bridge. With his help, this guy xxxxxx got the contract. and with the islanders' help, they made a bridge. Y: Before the old bridge, they were telling me there was a wooden one. Does he know?
82	32:28.3 - 32:35.0	Malayalam speaking V: He says "Yes, There was a wooden bride."
83	32:35.0 - 32:39.6	A:Yes, there was a wooden bridge. Y: Was it destroyed?
84	32:39.8 - 33:03.6	Malayalam speaking A: Wooden bridge was fully damaged.... Malayalam speaking V: He says "That's because the wood got damaged and was replaced by a concrete bridge."
85	33:03.6 - 33:24.3	A: At that time, there was less transportation. There was no car, motorcycle. They had to walk. the wooden bridge was fine. Then it was fully damaged and new one was built.
86	33:24.3 - 34:31.3	ancy is speaking on the phone A: you can write his name. (MLA name)
87	34:31.3 - 34:35.8	Y: Can you ask if he has any old photo of Cheriya Kadamakudy?
88	34:35.8 - 36:07.7	Malayalam speaking Y: any photo showing that old cheriya kadamakudy? Malayalam speaking A: It is very difficult and pretty expensive to take a photo for them. if there is any function, they will take it. Y: Just for special days, they are taking photos. we will see if they have any.

PART2

	Timespan	Content
1		A: It is construction photos. Y: It was 10 years ago, right? Malayalam speaking A: 10-12 years ago. Y: which church is it? Malayalam speaking A: Moolampilly Church. Yesterday we saw a photo. Y: yeah.
2	0:47.2 - 1:06.7	Malayalam speaking
3	1:06.7 - 1:28.3	A: 5-8 years ago, They had to go to another church for everything. for baptism. for funeral they had to go to that church. Y: which one? A: church in Moolampilly. Now it is fine. Y: When was this church built?
4	1:28.3 - 1:36.5	Malayalam speaking Y: San sebastian. A: 35 years ago.
5	1:36.5 - 1:47.2	Y: After that time,when did they start going to this church?
6	1:47.2 - 2:09.8	Malayalam speaking
7	2:09.8 - 2:50.3	A: That church was constructed 25-30 years ago. construction was over within one year. By that time, they had started using this church. Y: hmm. A: But the main thing is that there is no cemetery over here.For all they have to go to the main church.
8	2:50.3 - 2:58.7	Y: have you ever had a change in your land boundary?
9	2:58.6 - 3:21.5	Malayalam speaking V: He said "No, No... it was the same paddy field years before in my memory."
10	3:21.5 - 3:50.6	A: Here, it is still the same. Before that it was a paddy field at the back side. He knows only that. Y: Is there any change in the amount of land on the island?
11	3:50.6 - 4:24.9	Malayalam speaking

		V: He said "It might have happened when roads were built with stone walls near the water. Still, that's very rare. Another thing is that the river had narrowed; during the flood it was filled up."
12	4:24.9 - 5:12.7	A: He is saying that they have built those roads like boundaries. They took a little bit for the construction of the road, and they put a boundary for that. Y: Actually, do you know anyone who has recently converted their agricultural land to the residential land?
13	5:12.7 - 5:57.5	Malayalam speaking V: He said "Had done nothing like that in this area. Some areas in Pizhala, near the boat jetty, were done like that. There are some areas dredged and filled up, and later sold."
14	5:57.5 - 6:16.0	A: He is telling me that nothing happened on this island. That jetty, you know the ferry in Pizhala, the paddy field converted to land. and people started living there.
15	6:16.3 - 6:35.0	Malayalam speaking V: He said "Long years ago there was only a narrow pathway to the Pizhala boat jetty from the cemetery. Paddy fields were on both sides. "
16	6:35.0 - 7:16.8	Y: does he mean Cheriya Kadamakudy road? A: No from here to Pizhala. there was no road before. just a tiny road. Y: from satellite images, I noticed that the island is growing, how is it happening? can you ask? is there any idea? to the water?
17	7:16.5 - 8:28.3	Malayalam speaking V: He said "You know, the area you see in the backside of our house, grassy and scrubby, were actual paddy fields. As it was abandoned without farming, it gradually turned to land like. Mangroves and random weeds grow up there now. It's all because cultivation was stopped. Otherwise these fields when prepared for cultivation would have been clean. Who does paddy cultivation now? Literally nobody. For Namesake some do. That's generally because of shortage of labour. Machines and other equipment are not feasible here. Manual labour itself is required. "
18	8:28.3 - 9:27.6	Y: he said it was happening in the other island. how come?
19	9:27.6 - 9:51.3	Malayalam speaking V: He said "That's in places like Pizhala, Moolampilly. It was long back when I was schooling."
20	9:51.3 - 10:02.7	A: He was telling place in Pizhala, near san francis school, he had seen. he understood the difference.
21	10:02.7 - 10:14.7	Malayalam speaking V: He said "In places like Kothad also many paddy fields were converted by filling up and were sold when the road was constructed."

22	10:14.7 - 10:45.6	A: Before the construction of the main road... (referring to the road allowing access to reach the island from Pizhala) this road was a paddy field. it has converted to the land. Some people did the same in the other islands. so converted the paddy field into land. and sold those properties to other people. Y: Are they filling water with soil, stone? can you ask
23	10:45.6 - 11:00.2	Malayalam speaking V: He said "With sand and gravel."
24	11:00.2 - 11:58.5	A: It is a kind of red stone. not stone, kind of red, I will show you. they put that, then the sand. everything.. Y: Can you note that? and then they are using red stone? A: They will put red stone and sand into it. not red stone. this kind of red. I will show you. they will put inside the water. a little bit of sand and everything. A: They will fill it with those things. they will convert the paddy field or fishing field into land. and they sell this property. Y: but it is not happening on this island. A: No, no. Y: Okay.
25	11:58.5 - 12:04.4	Silence
26	12:04.4 - 12:07.3	Y: Is there any restriction to build a home from the government?
27	12:07.3 - 12:33.6	Malayalam speaking V: He said "Now there is a limit of distance from the bank of the river. " A: Can you tell that? V: He said "It is said that now the rule is 20m away from the bank of the river for buildings, but I haven't got a permanent house number yet, still a temporary one. So that i need to pay about Rs. 2000 to the panchayat every year."
28	12:33.6 - 12:44.3	A: This house is temporary, right? He has no sanction to become permanent. and he is paying money every year around 2000 rupees.
29	12:44.3 - 12:49.3	Malayalam speaking Y: Exactly how much money? V: He said "NearlyRs. 2500."
30	12:49.3 - 13:43.0	Y: Like a tax? A: Yes, because this house is temporary, right? not permanent. If he has a permanent house, the amount of money will be less. and after that like... he has to pay tax for this land also. That is another thing. It will be a small amount. and there is another government... we have to build a house 20mt away from the water.

		Actually in our area it is 100 metres. if that policy applies to here, no one can live here. so the government....
31	13:43.0 - 14:02.9	Malayalam speaking V: He said "The law was amended and now we can build houses 20m away from the river and 6m away from paddy fields."
32	14:02.9 - 14:13.0	A: he can build a house. Now it is 20 mt.
33	14:13.0 - 14:20.6	Malayalam speaking Y: And distance from paddy field how much distance?...6m? V: He said "Yes" Y: For building house? V: He said "Yes. "
34	14:20.6 - 15:01.9	Y: the guy told us if you occupy land for more than 5 years, the government is giving this land to them. A: That was done years before. Y: No, he said before 2008, it was happening. Can you ask if he knows?
35	15:01.9 - 15:08.2	Y: In that way, people are gaining paddy fields.
36	15:08.2 - 15:47.2	Malayalam speaking
37	15:47.2 - 15:57.1	A: He does not know that much. Maybe at times, he was abroad. Y: Okay.
38	15:57.1 - 16:01.0	Malayalam speaking
39	16:01.0 - 16:15.3	Y: Does he know anything about history of the island?
40	16:15.3 - 16:32.0	Malayalam speaking A: No. Y: When did his early relatives come to this island?
41	16:32.0 - 16:53.8	Malayalam speaking V: He said "I'm here since my birth and dont know the history of the arrival to the island".
42	16:53.8 - 17:07.9	A: he does not know that. he has born and grown up here. that is very long story. Y: does he know any story about the island? maybe his grandparents.... How was the island?
43	17:07.9 - 17:39.6	Malayalam speaking V: He said "In the old days....I have heard my father saying that there was no pathway to this side when he was married. The areas from the bridge onwards

		to this side were all as single without any partition. So from there they took a boat to reach here. “
44	17:39.6 - 18:24.6	
45	18:24.6 - 18:33.8	Malayalam speaking V: He said “It was only after introducing fish farming the pathways were made and were accessible to people.”
46	18:33.8 - 19:40.5	A: After this prawn cultivation was done, it should be partitioned. If we put fish here, the fish will go to the other side. so those people put a partition for that. for a walkable, they made a little bit wide bund. and that's how people started walking through that. That is the start of this road. first road. older days before. Y: His father was a fisherman, right? Malayalam speaking. A: Yeah, fisherman. Malayalam speaking. A: He was a farmer. Y: Rice farming Malayalam speaking.. A: okay. he mentioned before they were getting together for a function. Can you ask how life was before?
47	19:40.5 - 19:56.6	Malayalam speaking
48	19:56.6 - 20:03.4	Malayalam speaking
49	20:03.4 - 20:31.0	A: He is telling people that now people have become selfish. Those days everyone had a strong bond with each other. They had a big relationship. even for a birthday, they knew each other. There was no mobile phone but the relationship was so strong. Everybody knew each other. nowadays it is not happening.
50	20:31.0 - 20:32.9	Y: why has it changed?
51	20:32.9 - 20:37.0	Malayalam speaking
52	20:37.0 - 20:49.6	A: He is telling that generations after generations changes are there. I think after a few years, nothing will be like that. just the family itself.
53	20:49.6 - 20:57.4	Malayalam speaking
54	20:57.4 - 21:47.4	A: He is saying that “lots of years before, there was no catering agency. people itself made everything. I have a daughter. If she gets her married, I will call everyone. The day before the function, everyone would join together, cut vegetables, and make the food for the function. like that it was happening. Everybody came and joined together and did something for decoration purposes. Now everybody is giving it to catering people. At that time it was a very good bond. “ Y: Okay.... is there anything to add?

55	21:47.4 - 22:48.4	Malayalam speaking A: I don't know what to say. Do you want to ask him if you want anything to introduce to this island? Y: Yes, actually can we go to his workplace? and can i take a photo of his album showing construction photos? Malayalam speaking A: yes. Y: Can you ask about other workplace issues? Malayalam speaking A: yes.
56	22:48.4 - 22:53.1	Malayalam speaking y: He built this house in 2008, right?
57	22:53.1 - 23:16.3	Malayalam speaking A: 2010-2012 Y: I was asking because how did you get the material to built home?
58	23:17.3 - 23:51.4	Malayalam speaking V: He said "One of my brothers lives at Varapuzha. His wife's sibling owns boats which she lended me to bring the materials." Malayalam speaking
59	23:51.4 - 24:05.4	A: His older brother's wife has lots of boats. She gave that for rent.
60	24:04.6 - 24:25.5	Malayalam speaking V: He said "Materials were brought in trucks at Kothad ferry and with those boats lended they were brought here. "
61	24:25.5 - 25:04.0	A: Actually he was having that boat so they brought a boat nearby for that. and porters put the materials into the boat. and they will xxxxxxxxxxxxxxxx and they will round and come here. Y: It was very hard, right? A: It is easier for him because for others they have to bring here. but he has that connection... the older brother's wife's sister has this kind of boat. it became easier for him.
62	25:04.0 - 25:06.6	Malayalam speaking.
63	25:06.6 - 25:25.5	A: He is saying that if it is not done like that, the amount will be very high. wages.. Y: transportation. A: That helped him to build this house easier. Y: after the bridge, it must have gotten easier after the bridge
64	25:25.5 - 25:35.1	Malayalam speaking.
65	25:35.1 - 25:55.6	A: This bridge does not have that much advantage; the lorries can travel on top of this. It is 3 tonnes maximum. because now it is also very difficult.

		Y: do they need a new one? concreted and larger one? can you ask
66	25:55.6 - 26:05.7	Malayalam speaking.
67	26:05.7 - 26:19.7	A: He has been here for lots of years. He is saying that every year a new bridge is going to come. if it comes, it will be very easy for them
68	26:19.6 - 26:35.6	Malayalam speaking.
69	26:35.6 - 26:49.1	A: 8 years ago, when he came from abroad, he heard that the government was going to build a bridge. and all the money has been passed to make a bridge at that time.
70	26:49.1 - 26:55.6	Malayalam speaking.
71	26:55.6 - 28:31.9	A: 2-3 years ago, he also heard that amount had been passed. it is not happening. 2-3 years before he heard that the government had passed 10 and half Crore for the bridge. but it is not happening. the amount is increasing. Let me tell you another thing. The government can build a bridge. It is easy for them .10.5 crore are there. Y: very high amount of money. A: The government actually can easily build a bridge but they have moved years by years. if they had done it before, it would be very easy. comparing the price of materials.... Y: That is all my questions. thank you for today.

Interview No. 6

	Timespan	Content
1	0:00.0 - 0:15.4	Y: Today is 28th april and we are in Manjanakkadu island. Could you tell me about yourself?
2	0:15.4 - 0:36.4	Malayalam speaking
3	0:36.4 - 1:00.6	A: 24th of may is his wedding anniversary. Y: Sorry, what??? A: His wedding anniversary is 24th of may. Y: I did not understand what you were talking about? A: marriage?? Y: Okay, but why did we have this information? (chuckling.... we giggled as we couldn't understand why he started introducing himself with that.) A: He has been living here for 20 years.
4	1:00.6 - 1:09.6	Malayalam speaking V: He said "I have been 12 years. Before that I was at my ancestral home."

5	1:09.6 - 1:21.0	A: Before, he was in the main house where the family was together.
6	1:21.0 - 2:01.5	Malayalam speaking V: He said "Then got partitioned and with loans and savings we built this house. " Y: this house is on the same island, right? Malayalam speaking V: He said "This is not my property but my wives. It has not been transferred to my name." A: yes. it was her wife's property.she got this share.
7	2:01.5 - 3:14.0	Malayalam speaking
8	3:14.0 - 3:32.1	Malayalam speaking
9	3:32.1 - 3:47.4	A: His mother is living in sister's house. Both families are there. It is so difficult for her mother. He has two brothers. They had an accident.
10	3:47.4 - 4:13.9	Malayalam speaking V: He said "It's very difficult to go to church and all. We do not reach the church for the first holy mass at 6am as the boat service would not have started at that time. So usually we attend the second holy mass." Y: Are you telling about the Sunday on holy mass? V: He said "On other days too. During the time of the festival we return by 9pm as the boat service ends by that time . The boat service is available from 6am-9pm. "
11	4:13.9 - 4:36.0	A: he is telling us that if we have to function, we have to rely on that timing. otherwise it will be very difficult. Y: how are they managing time outside these hours?
12	4:36.0 - 4:49.9	Malayalam speaking.
13	4:49.9 - 4:59.6	A: In the surrounding area, there are lots of boats. they call each other and communicate with each other and.... Y: finding boat.
14	4:59.6 - 5:20.7	Malayalam speaking
15	5:20.7 - 5:27.3	Malayalam speaking Y: Which hospital do they go to in case of an emergency? A: Njarakkal government hospital.
16	5:27.3 - 5:46.2	Malayalam speaking Y: which church do they go to?
17	5:46.2 - 6:05.5	Malayalam speaking
18	6:05.5 - 7:37.4	A:There is a church. one and half km far away. Malayalam speaking

		Y: Can you ask. He has been living here for 20 years but before that where was he living?
19	7:33.8 - 7:54.0	Malayalam speaking
20	7:54.0 - 7:54.1	A: Okay his previous house is not this island. it is in another place. half a kilometer from here.
21	7:54.0 - 8:18.6	Malayalam speaking (asking him the house name)
22	8:18.6 - 8:26.4	A: house name is Muringanathu. Y: this place? A: here. his house name. Y: Can you note that? A: yeah.
23	8:26.4 - 8:51.3	(phone is calling and her wife is calling) Malayalam speaking Y: what is the meaning of the house name? Does he know?
24	8:51.3 - 9:17.3	Malayalam speaking V: He said "That's named by our forefathers and is followed as a convention." Y: Is there a meaning for it? V: He said "Something related to the British. (actually Anglo Indians, the Portugal descendents, he later on mentions it. All the colonizers are conveniently called as the British)"
25	9:17.3 - 9:46.2	A: In older days British people were living here. He got that name from them. His great-grandfather took their name and put it into his name. Y: meaning? A: meaning is..... his name or house name? Y: house name. A: I will ask.
26	9:46.2 - 10:24.2	Malayalam speaking A: brother , any meaning for the house name 'murungedathu?' V: That has been named since our forefathers...nothing apart from that. A: He does not know currently. It is like generations and generations passing... Malayalam speaking
27	10:24.2 - 10:29.2	Y: Who put this name? A: His great grandparents. Y: great grandparents? A: yeah
28	10:29.2 - 10:56.3	Malayalam speaking A: He is 4th generation.

29	10:56.3 - 11:17.5	Y: why did he move here from mainland?
30	11:17.5 - 12:30.5	Malayalam speaking V: He said "That's because my siblings demanded partition . As I was unable to pay them ready cash I agreed to sell the property to give their share. Meanwhile I discussed the situation with my wife as well as my father in law. He gave the land for free to build the house with the condition that I need to meet the building cost. That's how I built this house but the ownership has not been transferred as if done so then a share needs to be given to all her siblings. Only 2 sisters live here. If their share has to be given then this property needs to be divided that can problematize everything. So we do not remain stubborn over the matter of property considering the family relationships. All we wish is to have a place to live till death. So we do not ask anything regarding the property. "
31	12:30.5 - 14:27.6	A: yes. In that house, other brothers asked for his share. they can only give the share by selling their house. he said okay that is fine. otherwise it would be a fight. He said he will move and after selling the property they will give him a share. he asked wife to ask her mother and father. they told you can live in this and give this property (land) to them. and his mother and father in law said you have to take money yourself to build your own house. Y: they just gave the land and then they built their home A: yes.
32	14:27.6 - 15:14.3	Y: two houses in the same plot. How many people do they live here? A: This property or this house? Y: this house.
33	15:14.3 - 15:21.3	Malayalam speaking
34	15:21.3 - 15:33.5	A: He said 4 were living but his daughter got married and now there are only 3: he, his wife and son.
35	15:33.5 - 15:38.7	Malayalam speaking
36	15:38.7 - 15:57.2	Y: can you describe your typical day in the island?
37	15:57.2 - 16:30.9	Malayalam speaking V: He said "About the daily expenses on the island?" Y: No, your routine. V: He said " I go to work in the morning and return by 7pm. If there is a meeting of our unit (family unit of church) I attend it and leave there by 8:45pm even if it doesn't end". Y: Do you organise meetings daily?

		V: He said “ No, once a month”. What about the other days? V: He said “I go to work and return by 7pm. As the boat service is available till 9 pm any other activities or hangouts are exempted and return to the island”.
38	16:30.9 - 16:56.9	Malayalam speaking Y: what is his occupation?
39	16:56.9 - 17:07.0	Malayalam speaking A: painter. Y: how many times does he go to the mainland in a week? Is there any regularity?
40	17:07.0 - 17:22.0	Malayalam speaking V: He said “In a week...a number of times....(number is not clear to me) because as i go to work it itself makes 2 times a day...other than that to buy groceries and vegetables.”
41	17:22.0 - 17:46.2	Y: where is the closest grocery?
42	17:46.1 - 17:52.5	Malayalam speaking
43	17:52.5 - 18:11.8	A: on the mainland. I will show that. Y: How is your relationship with others in the island?
44	18:11.8 - 18:35.0	Malayalam speaking
45	18:35.0 - 18:54.9	A: He is telling that everyone is actually joint together and everyone is helping each other. if there is a function here, everyone will come and help each other. u Y: what type of activities or events do they have in the island?
46	18:54.9 - 19:23.2	Malayalam speaking V: He said “Here...for marriages...then for some kind of celebrations like onam...as most of the people are relatives... for any family functions... and also for the temple festivals. We don't exclude anyone. Be it any function everyone is together.”
47	19:23.2 - 20:11.5	A: he is telling that there is no difference for religion. there is no separating him from them. if there is a function there, everyone will join together. Y: What kind of facilities in the temple?
48	20:11.5 - 20:47.7	Malayalam speaking Y: is there any specific date?

49	20:47.7 - 22:27.6	Malayalam speaking A: no. festivals for hindus it is actually... Y: it is changing every year. A: No, in February it will happen. Y: in february ,it is onam festivals, right? A: no. temple festivals. for the onam it is different. Y: Is there any specific name for festival? Y: can you write? it is for hindu people? Y: this church is making the other one, right? A: yes. Y: okey. in which month? A: february. Y: other one? Malayalam speaking A: in december
50	22:27.6 - 22:33.5	Y: Is there any specific day that people can meet with other neighbours?
51	22:33.5 - 22:49.8	Malayalam speaking V: He said "Usually we chit chat as we go along...that's all.. Other than that, usually we don't sit together.
52	22:49.8 - 22:57.3	A: Actually once they sit together and talk, houses are very near right?
53	22:57.3 - 23:11.9	Malayalam speaking V: He said "On the field on the eastern side, at 7pm young people come together there.
54	23:11.9 - 23:27.8	A: We noticed a little bit of space. In the evening around 7 o'clock, young ones sit together there. Y: Young people? A: yeah.
55	23:18.8 - 23:52.6	Y: where is it? Actually, I did not notice. A: I will show you. we came to this side. We saw some goats and cows feeding there. that place. Y: just the young ones? A: There are not that much older people on this island because there is a transportation issue, right? Y: how old is he?
56	23:52.6 - 24:16.0	Malayalam speaking A:48 Y: Okay. What are the good things about living here?
57	24:16.0 - 24:35.9	Malayalam speaking V: He said "It actually makes me punctual. I go to work and return on time. If I am late by a minute after 9pm it's really difficult to reach the island. "

58	24:35.9 - 25:06.4	A: They have to arrange everything according to the boat, right? until 9, they are free. after that they cannot. Each day is currently planned. they will live in the house at this particular time and they will reach there at that particular time. The time management is done perfectly.
59	25:06.4 - 25:16.8	Malayalam speaking
60	25:16.8 - 25:32.9	A: yeah. is there any good thing?
61	25:32.8 - 25:48.1	Malayalam speaking V: He said "People on the island are very cooperative, very much fraternal. Also there is no smoking and drinking. "
62	25:48.1 - 26:39.0	Malayalam speaking
63	26:39.0 - 27:11.5	Malayalam speaking V: He said "Nothing like that. We all live here united. So many houses are not here... only around 28 families live here. All houses are of the descendents. At the time of each generation they settle here and that's how the number of houses increase here. During the time I arrived here there were only 18 houses here. " A: Nothing. Malayalam speaking
64	27:11.5 - 27:23.7	"A: when he got married and came to this island, there were only 18 houses here. Y: 18? A: yeah. Y: 20 years ago? A: yes.
65	27:23.7 - 27:32.4	Malayalam speaking (Asking about the baby) Y:and???
66	27:31.8 - 28:02.9	A: And after that he is telling me that there are only 28 families living there. and everyone is currently joined together like they have daughters. so some will stay on this island itself, some will go outside. They don't know whether they will stay here or not. If they stay here, they will build a new home. It is continuously happening every year.
67	28:02.9 - 28:15.6	Malayalam speaking
68	28:15.6 - 28:43.5	A: He is saying that if someone comes here everyone asks who you are, why are you here, are you a relative of someone?. so everyone knows each other like it is actually a safe boundary i think. If a stranger comes, everyone will notice, right? Y: What are bad things here?

69	28:43.5 - 28:57.8	Malayalam speaking
70	28:57.8 - 29:18.1	A: He is telling me that someone drinks. not everyone. Malayalam speaking
71	29:18.1 - 29:32.3	A: The main thing is transportation. boat problem is there, right? he didn't tell... it is very difficult to move to the other side.
72	29:32.3 - 29:36.5	Y: how do they provide the drinking water?
73	29:36.5 - 29:48.0	Malayalam speaking V: He said "We have a pipe connection. Huge pipe is installed underneath the river to supply water. "
74	29:48.0 - 30:10.2	
75	30:10.1 - 30:12.7	Y: When was this pipe constructed?
76	30:12.7 - 30:23.4	Malayalam speaking V: He said "Before I arrived here drinking water was brought via barge. Now we have a pipe connection."
77	30:23.4 - 30:35.7	A: When he got married, water was supplied by boat. through the barge water has been given to each house.
78	30:35.7 - 30:40.7	Malayalam speaking
79	30:40.7 - 31:02.0	. Y: When did it happen?
80	31:02.0 - 31:07.9	Malayalam speaking
81	31:07.9 - 31:29.9	A: He is saying that it has been done 10 years before. That time they also got a pipe connection. Y: barge was bringing water 10 years before. 10 years ago they built the whole pipe. A: yes.... the pipe was already there but still water was not coming properly and they did some maintenance for. then only water came continuously.
82	31:29.9 - 31:34.7	Malayalam speaking
83	31:34.7 - 31:54.4	A: So water was coming like they had to take 12 o'clock at night. only that time water reaches here. Y: What time? A: early days. They had to wait until 12 o'clock to get the water. Y: am or pm? A: midnight. Y: Okay.
84	31:54.4 - 32:02.4	Malayalam speaking

85	32:02.4 - 32:15.6	A: He is saying that the water should come from that side, right? so every house had to wait for a long time. Y: it was coming everyday, right? A: yeah.
86	32:15.6 - 32:21.4	Malayalam speaking V: He said "We cannot install a borewell or dig a well here. Drinking water is used for everything".
87	32:21.4 - 32:46.3	Y: how has your life changed after the flood in 2018?
88	32:46.3 - 33:05.5	Malayalam speaking
89	33:05.5 - 33:48.7	A: He is telling from here to until there water was there. Malayalam speaking A: He is telling that Holly Marry saved this island. If the water was higher, they could not live. He says that this island was protected by Marry.
90	33:48.7 - 34:13.4	Malayalam speaking
91	34:13.4 - 34:54.3	A: he is telling that in 2018 when the flood came, water was until there. Everyone left this island. because the water level increased. It was very difficult to buy everything. After that heartbreaking crisis, nothing happened.
92	34:54.3 - 35:02.9	Malayalam speaking
93	35:02.9 - 35:16.6	Y: when did they come back?
94	35:16.6 - 35:28.3	Malayalam speaking
95	35:28.3 - 35:46.7	A: After one week, they came back. Malayalam speaking A: But in between they came and looked at it. He and his son came and checked. Y: Do you know the history of the island?
96	35:46.7 - 35:52.1	Malayalam speaking
97	35:52.1 - 36:23.1	A: He doesn't know currently because he was on the other island and then came. He said that when he came after marriage, only 18 houses were there. Y: and do you know anyone who has recently converted their agricultural land to residential land?
98	36:23.1 - 37:01.6	Malayalam speaking V: He said "No it has not been converted. Paddy fields must not be converted. They must be retained as per the law to sustain cultivation. However in the current scenario cultivation is costly, almost requiring double the amount. La-

		bour charges, various processes involved in cultivation like tilling, sowing, harvesting, all cost huge. So most have given up the cultivation instead do fish farming”.
99	37:01.0 - 37:49.4	Y: When did they give up paddy field?
100	37:01.6 - 37:41.6	A: He is telling that in older days there was paddy field and fish cultivation. Now only fishing happens. because for the paddy field labour is expensive and it is a long process. they had to decrease the water level.. they had to collect paddy from fields...
101	37:49.4 - 37:58.0	Malayalam speaking Y: When did the cultivation cease? V: He said “20-22 years ago...there was cultivation when I came here.”
102	37:58.0 - 38:01.2	A: 20-22 years ago. when he came, it was there. 2-3 years later, they stopped that.
103	38:01.2 - 38:07.5	Malayalam speaking
104	38:07.5 - 38:56.5	A: When he got married and came to this island, he saw that this was done for only 2-3 years. Y: I did not understand.
105	38:56.5 - 39:32.5	Y: okey can you ask how island is growing
106	39:32.5 - 40:18.0	Malayalam speaking V: He said “I don’t know. “ Y: why is it happening? A: He does not know., Malayalam speaking (asks for clarification) As she b examined the satellite image she found that the island had enlarged. The reason might be filling up.so she is asking if there had been any filling up. Is it because of filling up or plants thickly grown? V: He said “No, there was no filling up. That might be because mangroves have grown”.
107	40:18.0 - 40:46.3	Malayalam speaking
108	40:46.3 - 41:05.4	Malayalam speaking V: He said “Mangrove trees are on the banks of rivers. That doesn’t matter. The proper land lay separate from it.”

109	41:05.4 - 41:37.7	A: he is telling that mangroves trees are in the boundaries of the rivers not in the land. Y: Okay. Did he see any people filling the water with land or soil?
110	41:37.7 - 42:02.3	Malayalam speaking Do you know anybody who extended their land by gradually filling it up? V: He said "No, lands are under the ownership of people. So nobody can intrude and take them up according to their wish. In case of filling up our own land to level it up labourers shall bring soil from the river."
111	42:02.3 - 42:53.0	A: He is saying that in each house, land has been calculated by the government. they cannot do that. They can take soil from water to make soil a little bit higher. only that has been done.
112	42:53.0 - 43:23.1	Malayalam speaking
113	43:23.1 - 43:53.4	A: He is telling that here everyone was wishing they would get a bridge to come from there to the island. and also build a rest area for people to wait for boats. They are planning to do that. but they didn't get funding from the government and they also asked help from politicians but it also did not happen.
114	43:53.4 - 44:15.6	Malayalam speaking V: He said "People are cooperative in every matter. For instance if anything needed people hold a meeting. A road is very necessary here. So we all came together for it..." Y: Do you have a road now? V: He said "We have applied for it but funds for it are not ready." Who arranges the funds? V: He said "The panchayat."
115	44:15.6 - 45:35.3	Malayalam speaking A: He is saying that if these islanders need anything they will join together to make it. if they need something, they will sit and discuss. and they will ask the panchayat for that and after they get the permission from the panchayat, they will get funding from the panchayat. Malayalam speaking A: SD fund is for hindu people. With that fund, they can build a road on this island? Y: why didn't they get funding to make....?

116	45:35.3 - 45:55.5	Malayalam speaking V: He said "If a fund of rs. 1 lakh is granted the expense for transportation and labour cost Rs. 1.5 lakhs. The expense may double. If it is a roadside then the expense doesn't be that much."
117	45:55.5 - 46:50.5	A: he is telling that for construction a road in this island, just one lakh rupee is fine to do that. constructing roads means that they have to maintain and transfer those materials to this island. That's why the amount will be high. so they don't have a sufficient amount for that. Y: Okay. transportation of materials is a big issue. and which panchayat is responsible for this island? Malayalam speaking A: Njarakkal panchayat. Y: Okay. How do you provide materials to build a house here?
118	46:50.5 - 47:03.7	Malayalam speaking A: He has suffered a lot to build his house. Malayalam speaking A: it took for a long time to build his house. Y: how many years?
119	47:03.7 - 47:19.3	Malayalam speaking V: He said "Nearly a year. What I did was when I went to work materials like bricks were brought as many as possible while I crossed the river by myself. "
120	47:19.3 - 47:38.1	
121	47:38.0 - 47:49.8	Malayalam speaking
122	47:49.8 - 48:08.3	V: He said "We bring the materials from Njarackkal via boats."
123	48:08.3 - 48:16.4	Malayalam speaking V: He said "A bigger one than the one available for the boat service."
124	48:16.4 - 48:42.5	Y: Okay. Did you change anything in this house after you built it first? Is there any change or addition?
125	48:42.5 - 49:01.8	Malayalam speaking V: He said "It is the same. It was recently plastered. "
126	49:01.8 - 49:07.5	A: This house was done properly two years ago.
127	49:07.5 - 49:18.7	Malayalam speaking
128	49:18.7 - 49:55.8	V: He said "My mother gave the money when she got her share to finish off the pending work."

129	49:55.8 - 50:05.2	Malayalam speaking
130	50:05.2 - 50:44.8	A: His daughter got married. This property showed to the bank and got a loan (he put up his house as collateral) that's why he managed the function for her daughter. Malayalam speaking A: It was sudden. Malayalam speaking A: We need to have cash and have to prepare for that, right?
131	50:44.8 - 50:58.5	Malayalam speaking
132	50:58.5 - 51:27.3	Y: What kind of facilities do you want to have on this island?
133	51:27.3 - 51:54.6	Malayalam speaking
134	51:54.6 - 52:24.4	A: He is saying that it would be great for the islanders to build an auditorium. Y: Auditorium? A: Yeah, small auditorium. because when the water tide is high, water will come here and it will be difficult. they have to come and join together. If there is a small auditorium on this island, it will be easier for them.
135	52:23.6 - 53:27.1	Malayalam speaking A: For small functions it will be nice. Malayalam speaking
136	53:23.1 - 54:04.5	A: He is saying that if he gets a chance to leave that island, he will go.
137	54:04.5 - 54:13.8	Malayalam speaking
138	54:13.8 - 54:34.6	A: and he is going to the church and people are asking why did you suddenly go? He doesn't have enough time to spend in the church because at 9 o'clock he has to come back home. Rich people in the church are asking why you need to stay on that island?
139	54:34.6 - 55:04.2	Malayalam speaking A: There are night activities in the church. it is difficult for him to go there. Malayalam speaking
140	55:04.2 - 55:09.6	Malayalam speaking
141	55:09.6 - 55:25.3	Malayalam speaking
142	55:25.3 - 55:38.6	Malayalam speaking

Interview No. 7

	Timespan	Content
1	0:00.0 - 0:41.8	Y: How long have you been here? Malayalam speaking P: This is my parents' house. I am 67 years. Y: How many years??? P: 73 years. Y: 73 years. You were born here. P: yes. Y: Okey.
2	0:41.8 - 0:53.5	Malayalam speaking
3	0:53.5 - 0:58.9	Y: Could you tell me a little bit about yourself? He can speak in Malayalam. it is ok.
4	0:58.9 - 1:05.7	Malayalam speaking
5	1:05.7 - 1:34.2	V: Occupation? J: I am a retired officer. Y: That is all? You can explain a little bit yourself. What are you doing now?
6	1:34.2 - 1:55.2	J: I have a farm now.. Y: What are you doing on this farm?
7	1:55.2 - 2:18.2	J: pokkali rice. It is special rice. We are not using pesticides. Y: sorry what? V: Pesticides. They don't use them in cultivation. for pokkali. J: Fishing and rice.
8	2:18.2 - 2:21.8	Malayalam speaking
9	2:21.8 - 2:34.1	J: 6 months we are cultivating fish and 6 months we are cultivating pokkali. V: For Pokkali, it has a specific time for it.
10	2:34.1 - 3:03.1	Malayalam speaking Y: During which season is <i>pokkali</i> cultivated? V: He said "June. almost by 15 June sowing would be done." And harvesting? V: He said "We can calculate times according to Malayalam Calendar. Harvesting by november- december. In a 5 month period. Actually 4 months is its yielding period. After november...dec..jan..(he calculates the time) by March it would be harvested. "

11	3:03.1 - 3:20.9	V: You sow it during June and cultivate around march. In March. Y: From March to June, it is fish season. V: Another time is given for fish farming.
12	3:20.9 - 3:57.4	Y: Okay. Are you sure that now it is still fish farming? can you say again which months J: This time is fish farming time. Y: From which month? J: Rice period is only 4 or 5 months. 2 Months for the preparation of the paddy field.
13	3:57.4 - 4:29.4	Malayalam speaking V: He said "The actual date is <i>meenam 30</i> (month of malayalam calendar). It is according to the conventional system. So I shall say that after checking the calendar. "
14	4:29.4 - 5:17.5	Y: Varuna you can take note here. If he say anything in Malayalam I can check. Y: It is malayalam calender, right? V: this is malayalam
15	5:17.5 - 6:11.8	Malayalam speaking
16	6:11.8 - 6:14.4	V: There is a period for fish farming. Y: From which month?
17	6:14.4 - 6:29.4	Malayalam speaking
18	6:29.4 - 7:19.3	silence (Varuna is taking note) Y: This is malayalam year? V: This one.
19	7:13.8 - 7:15.3	
20	7:18.6 - 8:14.1	Malayalam speaking V: He said "From October 17...(checking the calendar and confirming the dates of cultivation) <i>vrishikam 1 (nov 16) to meenam 30(Apr 13) is the time period. Dates may vary from 2-3 days every year.</i> ","
21	8:14.1 - 8:18.0	Y: What is he telling? V: Exact months.
22	8:17.8 - 8:28.3	Malayalam speaking Y: Fishing season is almost done, right?
23	8:28.3 - 8:44.5	J: Government gave license for 6 month. Y: From May, there is a pokkali period. J: Pokkali.

24	8:44.5 - 9:08.5	Malayalam speaking V: He said "That 2 month gap is for the preparation of the field. By June 15 fresh water shall be available which makes it suitable for cultivation. Before that the water shall be saline... so cannot cultivate on it; that time is used for the preparation of the field, making the bund strong all those things. "
25	9:08.5 - 9:28.3	V: In May and June , you have that preparation period for pokkali. J: You have to strengthen the bund. V: and xxxxxxxxxx season we are getting fresh water . That is called preparation time.
26	9:31.0 - 10:18.7	J: Now salty water. V: This period the water is salty. water will be salty. you cannot cultivate in salty water so in that period you have fish farming. Y: Salt is not good for pokkali rice. they have pond, they have a field at the back side. it is surrounding by bund. kind of set. how are they building this bund?
27	10:18.7 - 10:42.0	Malayalam speaking V: He said "In the past it was done manually. Now JCB excavators are used as they are not costly."
28	10:42.0 - 11:29.4	V: before it was done manually. people digged and made it with bund. Now they have machines. Y: Can you note the machine name? It is a kind of machine to collect the soil. V: They can easily dig. J: There is a cup. by using this.
29	11:29.4 - 12:03.2	Malayalam speaking
30	12:03.2 - 12:12.3	Y: Can you describe your typical day? morning afternoon.. What is he doing?
31	12:12.3 - 12:14.0	Malayalam speaking
32	12:14.0 - 12:52.0	J: Fish farming. Then..... Y: Sorry I did not understand. V: When water comes from the lake....
33	12:52.0 - 15:08.6	Malayalam speaking V: He said "That is ...during high tide we let the water enter the fish farm opening the shutter...nearly for 3 hours. 6 hrs is the high tide following the low tide alternatively for 6 hrs. So there is high tide twice a day. When the water level is higher than that inside the farm, we let the water in for 2-3 hrs. When the flow reaches its optimum the shutter will be closed. After it is closed water shall flow back through the framed net in front of it. This blocks the fishes and prawns from escaping. When the water flows in a <i>eta vala</i> (the net inserted to prevent the fishes and prawns from moving out of the fish farm when the shutter is opened during high tide) can be used. Its backside will be opened so the fishes enter through it.

		Fishes swim against the current. When the flow of water decreases, fishes move out. So this net is used that does not block the path of water. You can see it if you come there.
34	15:08.4 - 16:02.2	V: during tide time when water comes from the river to the farm area, you know you have some water to come back. Y: there is a difference in height, level V: Yeah level difference. when it comes, they let them come in. Then when the water level increases in the field, they shut the door.
35	16:02.2 - 16:08.2	Malayalam speaking V: He said "Come to the farm...i shall show you. So can understand it better".
36	16:08.2 - 16:10.4	V: when alls in
37	16:10.4 - 16:22.5	Malayalam speaking
38	16:22.5 - 16:47.9	V: then... when water goes back, high level so at that time, they had to shut the doors and fish would be trapped in it. we will go there and see. it will be more clear.
39	16:47.9 - 16:56.1	Y: which time? V: It depends on water flow.
40	16:56.1 - 17:02.5	Y: ok V: it is like... water will be there coming. 6 hour 6 hour difference.
41	17:02.5 - 17:09.5	Malayalam speaking V: He said "Generally the nets are laid at night. "
42	17:09.5 - 17:21.0	Y: Every 6 hours, directions of water is changing? V: Direction of water is changing. in 24 hours, you have two times water comes in.
43	17:21.0 - 17:55.5	Malayalam speaking (tells that he shall show and demonstrate for better understanding)
44	17:55.5 - 18:12.5	V: we can see. J: Farm is the backside of the church. Y: okey. we can go if it is possible. V: Can we leave now? Y: ok

Part2

	Timespan	Content

1	0:00.0 - 0:27.0	Malayalam speaking V: He said "Time of the tide changes. If high tide is 1pm for today, tomorrow it shall be 1:40pm and the day after tomorrow 2:20pm. Likewise 40min difference. It is actually told 2 <i>naazhika (malayalam unit of time)</i> .
2	0:27.0 - 1:05.7	Y: Everyday it is delaying 40 minutes. V: yes.
3	1:05.7 - 1:13.0	Malayalam speaking Random talks on breeze.
4	1:13.0 - 2:08.4	we are walking children are talking . Y: what are they telling? V: They are saying hi. walking
5	2:08.4 - 2:56.4	Y: it is his pond. taking photo.
6	2:56.4 - 3:08.6	silence

Part3

	Timespan	Content
1	0:01.4 - 0:11.5	Y: 6 acres. size of the farm? V: Yeah.
2	0:11.5 - 0:52.6	Malayalam speaking
3	0:52.6 - 1:13.4	V: this is for the small fishes. Y: It is his fishing area, right? V: ... y: Who is the owner of this pond? V: He is. he is. Y: It is separated for small fishes/
4	1:13.4 - 3:03.3	--

Part4

	Timespan	Content

1	0:00.0 - 0:33.8	walking
2	0:33.8 - 1:21.3	V: This is a river. When it is tide, water will come and the shutter will open. this one will open. and water will be in. J: Net will be opened. V: When the level is higher, water will be in.
3	1:21.3 - 1:41.9	V: when the water increases here, they will close it. only the water will be going up. fish will be there. Y: With this net.. okey. it is very long. with this net, they prevent the fish.
4	1:41.9 - 2:04.2	Malayalam speaking " V: He said "Yes...but this mainly intends the prawns instead of fish."
5	2:04.2 - 2:21.6	. V: it is for prawns.
6	2:21.6 - 3:59.0	Malayalam speaking V: He said "Generally fishes like green chromide, tilapia....there is a net laid for catching fish(gestures) After half an hour this water shall flow out. " Y: How to catch the prawns? V: He said "Net for prawns are laid on the few days after ekadeshi (11th day of lunar cycle) "
7	3:59.0 - 4:07.7	Y: What is that? J: It is solar light. Y: Why are you using this one?
8	4:07.7 - 4:26.0	J: This is used because it is effective. Y: Why are they using this light here?
9	4:26.0 - 4:39.6	Malayalam speaking
10	4:39.6 - 4:49.9	Y: What did he say before? I
11	4:49.7 - 5:37.3	V: It is about when do fish...tide. I asked about it. Y: Okay. I am really confused about times and dates. V: ah.. yeah. I think only in malayalam.... it is the phase of the moon. I don't know which phase. Y: okey. V: All cultivation depends on moon phases. moon and water.
12	5:37.3 - 5:43.4	Silence
13	5:43.4 - 6:10.0	Malayalam speaking Silence

14	6:10.0 - 6:20.5	Malayalam speaking V: He said "Water rises more at night than day. At night we need to place a light in water to attract the prawns."
15	6:20.5 - 6:23.8	V: this is for attracting the prawns.
16	6:23.8 - 6:26.4	Malayalam speaking silence
17	6:26.4 - 6:33.2	sound of taking photo
18	6:33.2 - 6:44.5	Malayalam speaking V: He said "One is placed on the other side too. "
19	6:44.5 - 7:04.7	Y: They are using solar energy. V: Yeah. mostly the water level is higher at night. when you use the light, prawns will be attracted.
20	7:04.7 - 7:21.8	J: There is also one more. V: One more will be on the other side. Y: Can you ask when he is collecting fishes or prawns?
21	7:21.8 - 7:46.6	Malayalam speaking V: He said "Currently just the water is allowed to enter. Nets are laid usually at night ...approximately at 2-3 am else the caught prawns rot before reaching the market."
22	7:46.6 - 8:11.0	V: Mostly early morning time. 2 am. Y: 2 am? V: 2 am. otherwise... Y: Midnight. He is collecting fish at 2 am. V: only he gets fresh. He says "in the market it has to be fresh. In the morning, if I collect it will be fresh." Y: early morning. J: This is the net.
23	8:12.5 - 10:06.5	Malayalam speaking Y: So after catching at 2pm... V: He said "That time also changes with the change in tide. Initially at 2 pm on the day of ekadeshi. Whats happening on ekadeshi? V: He said "On those days is when the skin of prawns thickens to its most and during that time they will arrive collectively. So catching them at that period is profitable...else taking 2-3 kg of prawns to market, calculating the travel cost is not profit worthy. So you dont catch them daily?

		V: He said “No, not in prawn farms. In the first lunar phase (15 days) nets can be laid for 5-7 days. Sometimes not even that. So in a month how many days are there for catching them? V: He said “8-10 days in a month. At the end of the season (licensed period) we will catch it daily else the public will do it. We have permission till the 30th of this month. It was supposed to expire on 13 th but it was extended due to the unexpected rain during that time. In a month you catch prawns for 10days, right? V: He said “10-12 days.
24	10:06.5 - 10:22.9	V: at least ten to twelve times prawns will be collected in the month. Y: where is he selling the prawns?
25	10:22.9 - 10:24.5	Malayalam speaking
26	10:24.5 - 11:06.6	J: There is a market xxxxxxxxxxxx.
27	11:06.6 - 11:20.5	Malayalam speaking
28	11:20.5 - 11:30.2	V: xxxxx is a nearby market. Another one is Ernakulam market. It is in the middle of the city.
29	11:30.2 - 11:42.2	Malayalam speaking
30	11:42.2 - 11:53.3	V: this is nearby. This is a little more far. otherwise they will dry.
31	11:53.3 - 12:11.3	Malayalam speaking V: He said “There are people who dry the prawn. The younger prawns got the most. Those will be dried. People also collect the fully grown prawns to sell in the market.”
32	12:11.3 - 12:26.3	Y: If they don't sell, they will dry. V: Someone will be very small. That one will not be that expensive. so they will dry it up and sell it.
33	12:26.3 - 12:32.6	silence
34	12:32.6 - 12:51.2	Malayalam speaking Dried prawns are also profitable, right? V: He said “It depends. If much are got its price decreases. Last time due to heavy rain, more prawns were bought but less price...approximately Rs. 35 for a kg.
35	12:51.2 - 13:17.7	Y: does he know anyone who has recently converted their agricultural land to the residential land?

36	13:17.7 - 14:02.0	Malayalam speaking V: He said "That's mainly in the places like Chittoor, Cheranelloor...not here." Here generally it was paddy field and river, right? V: He said "People here usually convert to build storehouses for the grains.for that a shed will be made. This is one like that(mentioning the shed there). Other than that no conversion is done for residing."
37	14:02.0 - 14:27.0	V: nothing has been... it is only for shed they will do it. this one was done like that. Y: But before it was happening. right? V: before it was? Y: In the past it was happening?
38	14:26.9 - 14:34.8	Malayalam speaking
39	14:34.8 - 14:44.6	J: There is no. V: I think there is not much development here.
40	14:44.5 - 15:27.3	Malayalam speaking
41	15:27.3 - 15:49.8	Malayalam speaking V: He said "One thing is right that...for instance if I built a house on the bank of a river. Naturally, I will extend my boundary a bit towards the river, filling it with some stones or something gradually. It is common."
42	15:49.8 - 16:10.2	V: All has been done gradually. Y:I am asking this gradual growing.
43	16:10.2 - 16:51.5	Malayalam speaking V: He said "It is common to encroach on the coastal side. It happens in places like Alappuzha. Most of the agricultural lands including that in Thrissur is converted to buildings. Most of the lands were converted there. In my memory in places like Cittoor and Cheranelloor cultivation was prominent. People used to come from a place called Vaikom for cultivation there. Now as people give up cultivation as it is not profit worthy. "
44	16:51.5 - 17:07.8	
45	17:07.8 - 17:14.2	Malayalam speaking V: He said "The cultivation here has depleted to 1/10th. "
46	17:14.2 - 18:28.0	V: agriculture occupation has shifted. Y: What does it mean? V: Like... since they were not getting that income, they got another occupation. before they were doing agriculture. now they changed it. They tried some other kinds of jobs. That is the main reason for the decrease in agriculture. and about the land.. it is because... we will just... gradually we just get from the river and make it land. not large scale one. Y: in long term.

		V: in the long term...
47	18:28.0 - 18:30.9	Y: What kind of material are they using to extend?
48	18:30.9 - 19:19.1	Malayalam speaking V: He said "It happened in the past not any more as the government-built boundary walls. In earlier times, people planted potta (a kind of weed you see there) that binds the land from erosion. As these grew mud and soil are filled in its gap to make the boundary. "
49	19:19.1 - 19:56.4	
50	19:56.4 - 20:19.4	Malayalam speaking V: He said " This plant would be planted on the boundary in a line so that the soil would be eroded by the water currents and when the freshwater arrived, it would grow thick and high. Then the mud and soil would be firmly bound between its roots and next time it would be planted a little extended and the same processes repeated. "
51	20:19.4 - 20:25.0	V: He is talking about methods. .
52	20:25.0 - 20:37.1	Malayalam speaking V: He said "This was how little bit of land was reclaimed from the water. It is not possible now. There is a boundary wall built by the government. They prevented us from expanding the island towards the sea, but they told us that we did it to protect the island from floods"
53	20:37.1 - 21:27.7	V: it will be planted with these boundaries. When the fresh water comes.... J: Outer..... V: Outer.. Y: To the river side.. V: Yeah. to the river side, they plant it. when fresh water comes, it will grow. when water go, mud will be accumulated between roots. it will be a land. Y: they extend with this plant. V: With this plant. This is how they extend their land.
54	21:27.7 - 21:45.4	Y: Okey. i got it. J: It is an old method. government built.. V: Government built this kind of stone. now it is not possible. Y: this stone made by the government. V: Made by the government. J: Government. Y: When did they make it?
55	21:45.4 - 22:10.5	Malayalam speaking
56	22:10.5 - 22:18.5	V: 19 years back. J: 19 years back. Y: Okey.
57	22:18.5 - 22:35.6	Malayalam speaking V: He said "It was a huge mission done in many places like Vypin etc. "

58	22:35.6 - 23:04.9	V: it was for vypin also. similar island like this. Y: these houses? When was he built? (showing fishing huts) These shelters.
59	23:04.9 - 23:21.6	Y:date of the construction? Malayalam speaking J: 2018. Y: Why do you have two shelters? is there any difference between them?
60	23:21.6 - 23:23.1	J: This one is a farmhouse. y: big one is a small house. a small one?
61	23:23.1 - 23:40.1	Malayalam speaking V: He said "That's built near the water to hear the sound of water as we need to close the shutter when the water flows back.
62	23:40.1 - 24:21.6	J: That is called 'madum' V: Madum means shelter. Y: It is very nice.
63	24:21.6 - 24:30.7	Malayalam speaking
64	24:30.7 - 24:38.5	Y: Who is the owner of Chinese net?
65	24:38.5 - 25:07.0	Malayalam speaking V: Lease.
66	25:07.0 - 25:32.2	Y: I have some little questions. but generally I understood the process. What are good things about living here?
67	25:32.2 - 25:53.6	Malayalam speaking
68	25:53.6 - 25:56.2	V: You are asking about this island, right? Y: Yeah. this island.
69	25:56.2 - 26:09.7	Malayalam speaking
70	26:09.7 - 26:28.2	V: They are farmers. Y: And? V: So they had to live here.
71	26:28.1 - 27:01.2	Malayalam speaking J: There is no option... during her father's time they had no option. they just knew how to cultivate. they had to live here. Y: Okay. What are the disadvantages?
72	27:01.1 - 27:49.1	Malayalam speaking
73	27:49.1 - 28:26.5	J: This farm is 8 acres. Y: in total 8 acres.

		J: Only 2 and half acres is mine. V: Basically agriculture is not beneficial. like... amount cost not returned that much. y: then why is he doing?
74	28:26.5 - 29:43.2	Malayalam speaking V: He said "I'm doing it because 40% of fish feed can be acquired from the straws and remains of paddy. Not only that, with an intention to get organic rice, but considering the expense of cultivation the government imposed a price of Rs 21-26 for 1 kg of rice does not earn us profit." (claps his hands to fright away the birds(little cormorant) that catch prawns)
75	29:43.2 - 30:04.7	saying name of the bird.
76	30:04.7 - 31:02.0	V: why they are doing it because it is organic farming. no pesticides. good for health. That is why. and again leftover of paddy is given as a food to fishes. Even though it is not beneficial. V: fishing is beneficial. paddy is little.... Y: It is difficult to make. V: They are doing an organic one. Y: How did his life change after the flood?
77	31:01.9 - 31:37.5	Malayalam speaking
78	31:37.5 - 31:43.0	J: Life has not changed that much. This area is at its highest level.
79	31:43.0 - 31:54.8	Malayalam speaking
80	31:54.8 - 32:00.1	V: water is almost like that. Y: like one meter high?
81	32:00.1 - 32:50.3	Malayalam speaking V: One and a half meters. did not affect that much. did not yield. during the flood. Y: There are some paddy fields. Are these paddy fields preventing floods? the island is surrounded by paddy fields. you know.
82	32:50.3 - 33:09.4	Malayalam speaking
83	33:09.4 - 33:15.6	V: What was the question? Y: Does paddy field play any role to prevent the flood?
84	33:15.6 - 33:20.9	Malayalam speaking V:No, nothing.
85	33:20.9 - 34:26.1	Malayalam speaking Is that mangrove forest?

		V: He said “Mangroves do not prevent floods. They can be useful near the seashores to prevent erosion. It is also a good habitat of fishes. One cannot destroy mangroves as they are protected ones under law. So nobody can build a house near it if the satellite images register it. Are little mangroves grown here being destroyed? V: He said “Else if they grow thick the government will declare them as mangrove forest.
86	34:26.1 - 34:38.8	Malayalam speaking sound of wind
87	34:38.8 - 36:04.6	Malayalam speaking
88	36:04.6 - 36:17.1	Y: his ancestors?his relatives? Malayalam speaking
89	36:17.1 - 36:36.6	Malayalam speaking V: He said “It is said that the island was naturally formed by sea.
90	36:36.6 - 36:42.0	
91	36:42.0 - 36:57.1	Malayalam speaking Then what happened? V: He said “Yeah, the waves got the soil accumulated and the island was formed”. That's how people migrated here.
92	36:57.1 - 36:57.6	V: then people migrated here
93	36:57.6 - 37:34.5	Malayalam speaking V: He said “Yes, that’s how it is when the land is open and free. For instance, I have studied in Elamkunnappuzha and I remember going near the sea to see the land which was naturally reclaimed. I saw people making boundaries there. Likewise people have done it here. Nobody knows the exact history.” When did your family shift to her? V: He said “During that time houses were here. It wasn’t very long back. I was born in 1949.”
94	37:34.5 - 37:43.7	J: 1949. V: 1949. He was born in 1949. Y: Okay, before that?

95	37:43.7 - 37:52.3	Malayalam speaking
96	37:52.3 - 38:00.2	V: His forefathers have been here. He does not know when exactly. Y: Is there any story?
97	38:00.2 - 38:06.7	Y: maybe his grandparents told a story about the history of the island?
98	38:06.7 - 38:23.1	Malayalam speaking
99	38:23.1 - 38:41.2	V: people said that here is naturally reclaimed and people migrated here and settled here. Y: He might be 6th generation.
100	38:41.2 - 38:56.9	Malayalam speaking
101	38:56.9 - 39:13.7	V: He is 5th generation. Malayalam speaking V: He has a granddaughter. He is the 5th generation.
102	39:13.7 - 39:24.3	Malayalam speaking
103	39:24.3 - 39:47.7	V: From his memory... that is not an exact one. just he guesses. Y: You know the navy bridge. They constructed this after the flood. V: New bridge. Y: before that it was just an old pedestrian bridge. next to this one.when it was built? Does he know ?
104	39:47.7 - 39:52.3	Malayalam speaking Y: pedestrian old bridge.
105	39:52.3 - 39:59.9	Malayalam speaking
106	39:59.9 - 40:02.9	V: There was no bridge during his childhood.
107	40:02.9 - 40:35.8	Malayalam speaking V: they used boats to travel. small one. like that. Y: is it your boat? J: yeah.
108	40:35.8 - 40:56.9	Malayalam speaking V: He said "In my school time...i.e., 1954-55 it was not this populated...it might be a total of 20 houses."
109	40:56.9 - 41:18.8	V: it was not populated. only 20 families was here. Y: When? V: His childhood. 1954... school time. Y: It was just 20 family.

		V: Almost 20 families are here.
110	41:18.8 - 43:50.1	Malayalam speaking V: He said "There was no proper road here, just a chera(footpath), which went long, zig zag. So for better transportation the panchayat decided to make a bridge using coconut trunks." Where was it? V: He said "Same place where the current bridge is. Coconut trunks were placed as sleepers for the bridge. It was also high enough that boats could pass under it. After that in 1964 panchayat decided to build a wood bridge using government funds. Natives volunteered to build it. It was in good condition. Later, during the term of xxxxx (Minister of community development) the broken old bridge beside the current one was built.
111	43:50.1 - 43:54.3	
112	43:54.3 - 44:16.2	Malayalam speaking V: He said "It was constructed during 1975-56. (this year is contradicting when i searched for the minister's term. So kindly check and confirm it). It was built with government funds by a contractor.
113	44:16.2 - 44:46.1	Malayalam speaking V: He said "Before that people donated their land to construct the road. That is how this road was constructed.
114	44:46.1 - 45:59.7	Malayalam speaking
115	45:59.7 - 46:52.9	. Y: pillars are coconut trees. V: all made with coconut. Y: it was around 1950s??
116	46:52.9 - 47:30.7	V: 1954. J: 1962. Malayalam speaking
117	47:30.7 - 47:37.6	V: Almost 1956...during his school time. in 1962 these people....
118	47:37.6 - 47:43.0	Malayalam speaking (tells to demonstrate by drawing a picture)
119	47:43.0 - 47:57.1	V: This kind of bridge is made of wood. Y: but it was constructed by people living on this island? V: Yeah, people living on the island. Y: funder is the people. another one? V: The other is funded by the government. Y: Wooden one. V: Wooden one.

120	47:57.1 - 48:19.3	Y: after that ... V: after that 1975-76, Y: it is an old pedestrian bridge. Then the navy bridge. J: by government. Y: Again government. Malayalam speaking V: After the flood.
121	48:19.3 - 48:51.9	Malayalam speaking V: The navy adopted this village. j: there is another village adopted. xxxx. V: Another village called xxxxxxxxx adopted by the navy.
122	48:51.9 - 48:53.4	Y: why did the navy select this island?
123	48:53.4 - 49:46.0	Malayalam speaking
124	49:46.0 - 49:50.9	V: The Navy had a big fund for it. and so...
125	49:50.9 - 50:21.7	Malayalam speaking
126	50:21.7 - 52:02.2	V: fund was collected by the head of xxx. it was... they funded it. They need a small village. Malayalam speaking
127	52:02.2 - 52:42.7	V: That is how many are adopted. They had a limited amount. They looked for a small island. During the flood, almost 3 houses were reconstructed and were distributed with solar panels and house essentials. Y: I will ask the last question. He mentioned this plant. What was the name?
128	52:42.7 - 53:50.9	Malayalam speaking. Y: Why are they planting? J: To protect the band. there is no bund at that time.

Interview No. 8

	Timespan	Content
1	0:00.0 - 0:03.5	(after introduction) A: This is the main house.
2	0:03.5 - 0:49.0	Malayalam speaking. A: This is his husband's elder brother's wife. She is living there. Y: are there 2 houses in the land? Malayalam speaking A: Did you start recording? Y: Yes, I started.

3	0:48.9 - 1:14.4	Malayalam speaking (asking her name) A: xxxxxx Malayalam speaking A: She is 37 years old. 6 people are living. Y: in this home? A: yeah.
4	1:14.4 - 1:21.6	Malayalam speaking
5	1:21.6 - 1:33.6	A: she, her husband, her husband's father and mother, her children. Y: What are the occupations of others? (She is a housewife)
6	1:33.5 - 2:07.4	Malayalam speaking V: She said "Her husband is a painter. Mother in-law generally goes fishing. Father in-law is old and doesn't work. Now he has gone to collect grass for the cattles." A: Her husband is a painter. Malayalam speaking A: Her mother in law gets the fish from the water. She is a fisherwoman. Father in law is going to cut the grass for cow, buffalos. Her husband is a painter.
7	2:07.4 - 2:15.5	Malayalam speaking Y: Are you not working? V: She said " I work in a school as a part of an employment programme run by the central government."
8	2:15.5 - 3:08.0	A: She is working for the government like kudumbasree. Y: What is she doing exactly? A: It means 'work for sure'. she is cleaning the lawns. It was given to her by the government. She has been doing this work for 3 years. Y: Can you tell me about yourself, please?
9	3:08.0 - 3:28.8	Malayalam speaking V: She said "Myself!?" Y: You can actually tell about your daily life on the island. V: She said "Okay. here...u have already heard about our difficulties with the boat, haven't you?" Y: Yeah, we shall ask about it. Now you may tell us about yourself. V: She said "Myself...I have been here for 12 years now. I have 2 children." Y: Like anything about daily life on the island? A: Here...you understood our misery, didn't you? About boats... Y: Yeah, we shall ask about it later. Now tell me about yourself only.
10	3:28.8 - 4:19.6	A: She got married and was brought here. She has been here for 12 years. After that she had 2 children. One is here, the other one is in her own house.

		Y: her house? A: yeah. She went to a function and she is at her grandparent's house. after a few days, she will come back. Y: Okay. This is their own residence, isnt? A: Yes. Y: Can she describe her typical day on the island?
11	4:19.6 - 4:36.0	Malayalam speaking V: She said "A typical day means...?" Y: Like what you do daily, your routine? V: She said "My household works...then we have cattles, I take care of them and if it is a day of work I go for it ."
12	4:36.0 - 5:06.9	Malayalam speaking
13	5:06.8 - 5:57.6	A: Did you hear? She made a noise ? (referring to other bride in the house) (laughing) Y: what is that?!? Y: how is your relationship with others in the island?
14	5:57.6 - 6:18.4	Malayalam speaking A: it is fine. Y: Okay. What type of activities.... A: I did not ask the house name. Y: ah, right.
15	6:18.4 - 7:17.1	Malayalam speaking Y: Okay. What type of activities do they do with the others?
16	7:17.1 - 7:34.5	Malayalam speaking V: She said "Here we have kudumbasree. Then we have balasabha for children."
17	7:34.5 - 8:05.9	A: They have a group for kids. from 5 to 18 years they joined together and their activities will happen. It is called xxxxxxxxxxxxxxxx. Y: it is for children from 5 to 18. A: yeah. Y: What are they doing together? A: Just learning activities like singing. Y: Who is conducting, organizing?
18	8:14.5 - 8:34.3	Malayalam speaking V: She said "For children's we need to register through kudumbhasree. Now for registering...(interuppted)"
19	8:34.3 - 8:58.3	Y: how many children do they attend to this activity?

20	8:58.3 - 9:05.7	Malayalam speaking
21	9:05.7 - 9:08.6	A: She does not know correctly but each home is attended from this island. Y: but around?
22	9:08.6 - 9:16.4	Malayalam speaking V: She said "Around 20."
23	9:16.4 - 9:19.6	Malayalam speaking
24	9:19.6 - 9:22.5	Malayalam speaking Y: Where do you organize it?
25	9:22.5 - 9:29.0	A: It depends on each house's availability. One day will be in one house, another day will be in the other house. like that.
26	9:29.0 - 9:37.5	Malayalam speaking Y: how many times a week? What did she say exactly?
27	9:36.2 - 10:44.3	Malayalam speaking
28	10:44.3 - 10:56.6	
29	10:56.6 - 11:12.8	A: After covid, the number is very low. before covid it was very fine and active. During covid time people were not allowed to go.
30	11:12.8 - 11:22.5	Malayalam speaking (indistinct words to someone else)
31	11:22.5 - 11:32.9	Malayalam speaking Y: What's your work exactly in kudumbhasree?
32	11:32.9 - 11:56.7	A: xxxxx. Y: what is that? A: It means work for sure in malayalam. you will get work anyway. it might be cleaning the road, cleaning the ground.. Y: it is that you mentioned before, right? A: Yes. Y: Government is paying.
33	11:56.7 - 12:02.6	A: Is there anything like a meeting for women?
34	12:02.6 - 12:17.0	Malayalam speaking A: Nothing is here. Y: for wedding, funeral?

35	12:17.0 - 12:40.1	Malayalam speaking A: That time they will join together as a family itself. Y: just in the family. A: yes.. no! If the function happens, everybody will join together as a family. Y: and are they preparing food? how is like that?
36	12:40.0 - 12:52.6	Malayalam speaking Y : how do people respond in case of some functions and celebrations on the island? V: She said "People are very cooperative. In case of anyone's demise, nobody from the island goes to work. The house next to will make food"
37	12:52.6 - 14:06.6	Y: Okay, are they preparing anything for the funeral? A: She is saying that if a funeral happens, to the next house if a person dies in one house, this house will not do anything. The house next to it will make food for that house for one day. and give to everyone. Y: Okay, for the wedding?
38	14:06.6 - 14:15.3	Malayalam speaking V: She said "For wedding, if the food is prepared at the home itself (i.e. Food is not ordered) people will help with it on the previous day."
39	14:15.3 - 14:44.7	Y: Okay, is there any festival celebrated on the island? Or a special day?
40	14:44.6 - 14:56.0	Malayalam speaking V: She said "annual festival of temple".
41	14:56.0 - 15:03.3	A: There is a temple. and temples are having festivals. Y: Which time?
42	15:03.3 - 15:15.1	Malayalam speaking V: She said "It usually happens in January, but due to covid situations it got postponed."
43	15:15.1 - 16:01.5	A: it was 4th, right? it is calculated with the moon. Hindus have special calendars. They checked the weather to know if it was a good time or a bad time. if it is a bad time, they will not celebrate. After bad times go, they will celebrate the festival. they believe that if they are just making a day for a festival, if it is a bad day, someone will happen to this island.
44	16:01.5 - 16:06.7	Y: Is there any regular time to go to the temple?
45	16:06.7 - 16:28.3	Malayalam speakin V: She said "Here, It's not like that. Here, on the last Sunday of the month is the puja." Y: so, do you go there on that day? A: Yeah, we go that day. On other days too we go there to pray but the puja is on the last of the month.
46	16:28.3 - 16:51.7	For the rituals in the temple, it only happens once a week. last day of the week. Y: Sunday. A: sunday

		A: That time everyone will join together and go to the temple. Y: Okay. What are the good things about living here?
47	16:51.7 - 17:52.0	A: She is telling me there is nothing on this island. Malayalam speaking V: She said "Good things!? Nothing is there to say anything good about." A: She is saying that now it is full of tragedy because there is no road and bridge. The water level is increasing and increasing. Everyone is having trouble here. Malayalam speaking A: her mother-in-law is a fisherwoman. if she does not get anything, it will be a problem. it depends on each day and they cannot tell a perfect day.
48	17:52.0 - 18:25.9	Malayalam speaking Y: So don't you have anything good? V: She said "Good part means...it was nice before. Boys used to play on this ground but now it turned marshy as water entered. This land is being sunk. There, you see the Veeranpuzha. It is mentioned in history. A: It was nice before. On this ground boys used to play football. Now, as the water level increased it got immersed in water. The land is sinking. The river seen on the other side is the Veeranpuzha. The island is on the banks of it. The river is mentioned in history.
49	18:25.9 - 19:36.5	A: She was saying that before this land was very rich. people were having lots of fish and farming was being done. After that, they had a lot of trouble. They don't have any source from this island. Before that, for 6 months they were doing paddy field, pokkali. We saw in cheriya kadamakudy, 6 months fishing, 6 months paddy field. now it is not happening. Everyone needs to go work outside. Some people are living by fishing from the river itself so if they don't get a fish from the river, that day will be spoiled. so they won't get money. Y: But why did it change?
50	19:36.5 - 20:01.2	Malayalam speaking V: She said "It's because of water pollution. I mean there is a factory here. When pollutants from the factory are drained into the river, fishes die and people who go fishing won't get any. It also affects the bund owners".
51	20:00.2 - 20:34.9	A: Actually, here is a company we saw. If that company releases dirty water, chemical water, on that day they are not able to get a fish. for the bund, they are changing the water everyday. if the water is not clean, their fishes will be dead. That's a big problem for them. Y: because of this company? A: yes
52	20:34.9 - 20:50.5	Malayalam speaking V: She said "Not only that. As the temperature increases, fishes die. Temperature and salinity affects the fishes."
53	20:50.5 - 22:28.4	A: yes. It was a better place to live for them. Now some islanders are going outside for other work. Y: because of pollution?

		A: pollution, water problem. in this ground before teenage people were playing football and when high tide came, water level increased, xxxxxxxxxx this land has been demolished by water itself. day by day the water level is increasing and this land is going lower and lower. so there is no possibility for children to play on the ground.
54	22:28.4 - 22:30.7	Y: Can she find this island safe?
55	22:30.7 - 22:48.2	Malayalam speaking
56	22:48.2 - 23:37.4	A: She is saying that before the flood, this island was very safe. After the flood, this island started becoming poor.. Y: I was asking in terms of the criminal aspect. Malayalam speaking A: There is no issue like that. Malayalam speaking
57	23:37.4 - 23:55.2	Malayalam speaking
58	23:55.2 - 24:01.6	Y: what kind of facilities would you like to have on the island?
59	24:01.6 - 24:57.3	Malayalam speaking V: She said "We need a road. Permission for the road has been passed but due to the distance to cross the river and problem to avail masonry material only if we get the material here we could construct a road and only then we could apply for a bridge. When we had got permission to construct the road 3-4 times, the fund for the labour charge to avail the raw materials was not passed by the central government. Most people here belong to SC(scheduled caste). The fund is provided from their development board. Since the material and labour charge is not met by the funds, so everytime we get rejected.
60	24:57.3 - 25:06.0	A: She is telling that You about the SD fund I told you about yesterday.
61	25:06.0 - 25:12.1	Malayalam speaking V: She said "Sree Narayana Guru....Not that this is Pattikajathi pattika varga (sc/st)..."
62	25:12.1 - 26:45.7	A: this is SD fund.. first they have to get a proper road. Y: Sorry I did not understand. A: They need a proper road. After getting a road, they can get a bridge. so the government has passed some few amounts. it has been rejected. if the road is constructed, they can only get a bridge. Fund has been passed for the road. but the transportation issue, the government doesn't have funding for that. Y: Which road? A: This road (referring to the road within the island) In Kadamakkudy we have seen, right? it was concreted. Y: Okay, they first need a proper road, after that they can build a bridge. A: Government said that if the road has been done, only they can make a bridge. the government passed an amount to make a road. but there is an issue with transportation. because if transportation happens, they can build the road. Y: they have a fund for roads but not for transportation.

		A: It has been rejected more than 10 times. because they don't have money for transportation. If they get money for transportation, roads will come. After the road comes, they will have the bridge.
63	26:45.7 - 27:04.3	Y: Okay, she would like to have a bridge and road. A: Yes, she needs money for transportation first. because the government has an issue to make a road. For the road there is money but for the transportation there is not. Y: Okay.
64	27:04.3 - 27:14.2	Malayalam speaking V: She said "There is soil testing prior to building a bridge, isn't it? After the soil was tested, we got no mention of it later."
65	27:14.2 - 27:44.0	A: She said that Government officials came and checked and said it's ok to build a bridge over here.
66	27:44.0 - 28:13.0	Y: They are just using boats. same boat right? paid by the government. A: not the government, but the panchayat. The panchayat is run by the government. Y: yes, that is fine. How often do you go to the mainland?
67	28:13.0 - 28:30.2	Malayalam speaking A: In a week or day? Y: it does not matter. how many times in a week, in a day... Malayalam speaking
68	28:30.2 - 28:54.7	A: She said if she has work, she will go daily. Malayalam speaking A: If they need to buy anything, they have to go. If she has work also, she has to go. Y: Okay, what are they doing in case of an emergency?
69	28:54.7 - 29:34.7	Malayalam speaking V: She said "Emergency like what?" Y: for the health issues?? Malayalam speaking V: She said "That's the issue. We need to go there to hire any vehicle." Y: Vehicle means what kind of vehicle do you get? V: She said "We could hire an auto rickshaw or something. In case of any serious case...to call an ambulance... won't we need to tell the officials to call upon...Due to the issue of the bridge, deaths happen. Also because of this many people have left the island. People migrate to other places like Elankunnapuzha and many for rent. People at the end of the island have gone for rent".

70	29:34.7 - 30:13.6	A: She is saying that due to this issue, a few families left this island. and they are staying in other places with rent. they don't have their own property. A few people died because they couldn't reach the hospital on time. If any emergency is happening, first they have to cross this river by boat, after that, they have to tell somebody to call the ambulance. and they can go to the hospital. a few people died like that. Y: really.... A: yes....
71	30:13.6 - 30:39.7	Malayalam speaking V: She said "Here was a man. He couldn't walk. He was paralyzed. He needed to be carried in a chair and cross the river to get to the hospital. He died recently. "
72	30:39.7 - 31:21.2	A: She is telling me about a man.. the difficult part is that if he needs to go to hospital, they need to come and take him in a chair and they carry the chair to the boat to transfer him to that side. He died a few months before. Y: he could not reach the mainland? A: yeah. Y: Sorry to hear that. A: yeah. Y: This boat service is from 6 am to 9 pm. other times?
73	31:21.2 - 31:41.5	Malayalam speaking
74	31:41.5 - 32:14.8	A: She is telling us that from 6 am to 9 pm there is a boat service. He has a lunch break from 10 am to 10.30 am. Y:Do you know the history of the island?
75	32:14.8 - 32:20.5	Malayalam speaking
76	32:20.5 - 32:25.9	A: She is telling that her mother-in-law has to come. Y: she knows.
77	32:25.9 - 32:34.4	Malayalam speaking
78	32:34.3 - 32:56.5	Malayalam speaking
79	32:56.4 - 34:17.2	Malayalam speaking
80	34:17.2 - 35:41.8	Malayalam speaking
81	35:41.8 - 35:47.6	Y: what happened? A: Some problem with children.
82	35:47.6 - 36:10.8	Malayalam speaking
83	36:10.8 - 36:51.3	Malayalam speaking A: They had a fight between (At that time, the children had a fight.) Y: Really? A: yeah.

84	36:51.3 - 37:11.2	Malayalam speaking
85	37:11.2 - 37:41.6	A: He hit your daughter and she was smiling. and then he said I will tell you mum. Y: anyway. When did her early relatives come to this island? mother and father in laws?
86	37:41.6 - 38:03.3	Malayalam speaking A: Father came now and mother will come in the afternoon. Y: Okay, she does not know. Who built this house?
87	38:03.3 - 38:17.6	Malayalam speaking
88	38:17.6 - 38:45.1	A: this house was built by his husband and his husband's brother. actually both their husbands are brother. (referring two ladies in the room). Y: okey. and when? Malayalam speaking Y: You said it is the main house, right? A:yes. Y: should be old.
89	38:45.1 - 39:12.0	Malayalam speaking V: She said "From gathering the stones to structuring the house was done by my husband(old woman). Painting was done by myself. " Y: Is your husband a contractor? V: She said "He is a mason worker." Y: What about the old house? V: She said "This is the same house."
90	39:12.0 - 39:54.2	A: They actually rebuilt this house. The older one was a small house. After that, they got an SD fund and built this house. Y: How many years ago did you say that? Malayalam speaking A: 7-8 years ago. Y: Do you know anyone who has recently converted their agricultural land to the residential land?
91	39:54.2 - 40:15.0	Malayalam speaking V: She said "These all were agricultural land. All were converted in the past. There was no land as such suitable for building."
92	40:15.0 - 40:32.2	A: She is telling me that lots of years before, it was just a river. not a river. it was just bund. now bund is not there. people converted those bunds to the land. and every house has been built lots of years ago. Y: how does she know?

93	40:32.2 - 40:51.9	Malayalam speaking Y: By what means the agricultural lands were made suitable for building houses? V: She said "That was done by filling them with plants and mud."
94	40:51.9 - 41:11.2	A: They are saying that a few lands were built like that. there was not so much property. and older people converted paddy fields to residential land and they put the mud, soil from the water.
95	41:11.2 - 41:23.7	Malayalam speaking V: She said "It is actually a gradual process. A little land would be extended by reclaiming the agricultural land to get more area."
96	41:23.7 - 41:42.6	Y: But when? around?
97	41:42.6 - 41:54.5	Malayalam speaking
98	41:54.5 - 42:07.4	A: Actually here there is African grass. when that comes, it is difficult for them to move by boat. Y: when is this grass coming?
99	42:07.4 - 42:26.6	Malayalam speaking
100	42:26.6 - 42:39.4	A: This thing is coming mainly in September and October. After that in saltwater this will be resolved.
101	42:39.4 - 42:48.2	Malayalam speaking
102	42:48.2 - 43:20.7	A: She is saying that after the grass comes, it is very difficult for boats to move so children are not going to school. and they are saying that they need a road and bridge. Y: How long has she been here? (asking for another lady.) Malayalam speaking A: 21 years. Malayalam speaking A: She was the first to get married and brought here.
103	43:20.7 - 43:41.7	Y: master one. (laughing) Malayalam speaking
104	43:41.7 - 44:49.3	A: She is saying that when it is rainy, it is very difficult for them to travel. They have to wait in the boat jetty. Malayalam speaking

		A: She is telling me that this is everyone's house and that it is her house (older bride's house). in older days, they were getting the share. Y: it is the main house but she is living in another house separately. A: yes. Y: for her own family. A: She bought that land.
105	44:49.3 - 45:37.8	Malayalam speaking
106	45:37.8 - 46:26.8	A: Okay she is telling me that there is one neighbour there. Malayalam speaking A: Actually..... There are 3 men living here. no. 3 sons are living here. It is the oldest one. and that is the youngest one (showing his wives). Her husband is the youngest one. the middle one is not here. It was his property. She said that he left this island for another place.
107	46:25.3 - 47:49.4	Malayalam speaking A:She is telling you to have nice smile. Y: Thank you. yours too. Malayalam speaking A: She is asking to take her outside. (laughing) Malayalam speaking
108	47:49.4 - 49:27.0	(kidding and laughing.) Malayalam speaking
109	49:27.0 - 49:56.1	Y: Did you have a chance in your land boundary? A: They told me it was done before.... Y: Can you ask if there are any restrictions on building a home on this island?
110	49:56.1 - 50:58.0	Malayalam speaking V: She said "Yeah....we had applied for the building permission to build a house and got rejected. her(mentioning some woman there) and mine were rejected. That's the reason why we face problems with our house. We don't have a house number. I have got only a temporary number. Application for permit was rejected." Y: Why was the application rejected? V: She said "Pointing out some issues related to coastal regulations, a building must be a particular distance away from the bank of a river. So we don't have a house else a bill has to be passed. V: She said "The other woman says: The houses which were built in old times have house numbers. When those houses were rebuilt the same house numbers were granted before but now we need to get sanction from Thiruvananthapuram because any alterations near coastal areas needed to be registered

		there else when we are affected by any kind of happening the government abandons us.”
111	50:58.0 - 51:54.4	A: She is telling us that there is a plan for the government. If a person is a house lander, he can rebuild. If there is an old house, it is very easy for them to rebuild it. This actually has been rejected by the government and if it is not converted, she can build a house. she is like... to make a new house without permission if something happens to this house, the government will not look after that. Y: they can but there is another issue. A: The government cannot do anything. Y: Is there any rule like you can build your house? meter away from the water?
112	51:54.4 - 52:09.2	Malayalam speaking V: She said “It was 100m before, later 50m and it said to be 20m now but not sure. The law got scrutinised because of the flood that happened twice.” V: She said “There has been a hint that the distance from the bank might be reduced to 20m. “
113	52:09.2 - 52:30.9	Malayalam speaking.
114	52:30.9 - 52:58.7	Malayalam speaking A: 50 metres away from water. Malayalam speaking V: She said “If the panchayat grants us permission through the <i>Life Mission</i> plan we would get 4 lakhs. It has not been done till now and so we don't have a proper house apart from a tin roofed house like this.”
115	52:58.7 - 53:24.8	Malayalam speaking
116	53:24.8 - 53:36.7	Malayalam speaking
117	53:36.7 - 54:03.8	
118	54:03.8 - 54:15.4	A: Whenever they requested, it has been rejected again and again. because limits are there, right?
119	54:15.4 - 54:22.8	Malayalam speaking V: She said “Application for house under <i>Life mission</i> has been approved in the panchayat but the problem is with the coastal regulation.”
120	54:22.8 - 55:48.9	"A: panchayat has approved the construction but the government is not giving permission. Y: Got it. Have you made any changes in your house since it was first built? Malayalam speaking V: She said “Before it was tile roofed with small rooms.”

		A: In the older house, there was no proper roof. and rooms were so tiny. and it has been converted into a house with a roof and lots of rooms. Y: Okey. that's all. is there anything to add?
121	55:48.9 - 56:09.8	Malayalam speaking
122	56:09.8 - 58:24.8	A: They actually need a bridge and road. Malayalam speaking Y: sorry. Which school are children going to? Malayalam speaking A: Manjanakkad government school. Malayalam speaking Y: And which hospital? A: njarakkal government hospital. Y: which grocery? A: near the junction, we saw. there. If they need to buy vegetables, they have to go to the main place. Y: which place? A: on the main road.
123	58:24.8 - 58:48.8	Malayalam speaking V: She said "We buy vegetables from Njarakkal. Y: Is this your daughter? V: She said "No, hers." Y: So that girl? (Introduced the people.) V: She said "There were her brother's children, her sister in law, her father's brother's children. "
1 24	58:48.8 - 58:52.0	A: Let me tell you. It is complicated.
125	58:51.9 - 59:03.4	Malayalam speaking V: She said "You saw an unfinished house near that house, didnt you? That's our fathers ancestral home. We all are a single family.
126	59:03.4 - 59:05.5	A: Actually here everyone is a joint family.
127	59:05.5 - 59:13.4	Malayalam speaking Everyone's house name is the same? All houses have the same name. A: Yes, the house name is the same.
128	59:13.4 - 1:01:04.8	A: Here, her father in law's brothers wifes.... Malayalam speaking

		A: This is her daughter..... (explaining relatives...) actually, on this island everyone is a cousin. Malayalam speaking

Interview No. 9

Part1

	Timespan	Content
1	0:00.0 - 0:25.8	Y: Hi. Can you introduce yourself? A: She is xx years old. Her name is xxxxx.
2	0:25.8 - 0:50.0	Y: What is your house name? A: House name is xxxx.
3	0:50.0 - 1:23.6	Malayalam speaking
4	1:23.6 - 1:38.9	Y: she looks very unwell. A: that is one I have asked.
5	1:37.2 - 1:56.7	Y: I don't want to force her for interview. Malayalam speaking (asking her) A: No, she is fine. she can talk. Y: What is the meaning of the house name?
6	1:56.6 - 2:28.5	A: she does not know the meaning. pada means the paddy field. thara means the floor. A: she is telling she does not know properly . I told simply. that is it.
7	2:28.5 - 2:29.3	Y: How long have you been here?
8	2:29.2 - 2:41.5	V: She said "It's been 10 years since I got married. Family was on the mainland but the property there and came here. It's said that it has been nearly 20 years now."
9	2:41.5 - 2:54.1	A: 10 years. she was married and brought here 10 years ago. this family were living in other side, bought a land from here and came to this island.
10	2:54.1 - 2:59.8	Malayalam speaking The father had agricultural land here...that's why they came and settled here.
11	2:59.8 - 3:20.4	A: her father-in-law had a paddy field over here. that's why they came from other side and stayed here. so they have been live for 20 years and she has been here for 10 years. Y: was her husband born here?

12	3:20.4 - 3:40.7	Malayalam speaking
13	3:40.7 - 4:16.2	A: you know he is the only son of his father. His father bought this land because he had a paddy field here. so he bought this land and he died a few years after taking this land. 20 years have passed since he died (he is no more). her mother-in-law died 3 months ago. Y: They had a just paddy field, not a residential land. then he bought residential land. okey. interesting. is not it? just paddy field. Could you tell me little bit about yourself?
14	4:16.2 - 4:36.3	A: she is not going to work. she is busy with children and house works.
15	4:36.3 - 4:40.4	Y: is it their residence, right? Do they own? A: yes.
16	4:40.4 - 4:58.0	Malayalam speaking
17	4:58.0 - 5:13.7	A: she is telling that when she was pregnant, she had a covid at the last stage. Delivery was fine and after the covid, she has still cough.
18	5:13.7 - 5:21.0	Malayalam speaking
19	5:21.0 - 5:51.9	Malayalam speaking
20	5:51.8 - 5:58.2	A: she is one year old (showing her child).
21	5:58.2 - 6:55.7	Malayalam speaking A: she is asking where did you come from? Malayalam speaking (she is asking about researcher and translator.)
22	6:55.7 - 9:08.5	Malayalam speaking A: her husband will go to work at 10.30. We have time. do you want to ask him something? (to her husband who is running boat service in the island.) Y: we don't have enough time for now. maybe we can ask later.
23	9:08.5 - 9:18.8	Malayalam speaking
24	9:18.8 - 9:27.2	A: he is telling that he has 5 days leave in a year, he has to go to work continuously.
25	9:27.2 - 9:31.7	Malayalam speaking
26	9:31.7 - 9:36.2	A: he is working fulltime even on Sundays, Saturdays also.
27	9:36.2 - 9:41.7	Malayalam speaking
28	9:41.6 - 9:57.2	A: He can stop his work at 9 pm only. Y: From 6 am to 9 pm. can you ask what is he doing in case of emergency? people are calling him, right? A: at night?

		Y: night or early morning?
29	9:57.2 - 10:26.6	Malayalam speaking
30	10:26.6 - 10:47.4	A: If there is an emergency in this island, he will take them to opposite side at any time. Y: They are calling him, right? or coming to home? A: They are coming. if he is there, it is fine. but at nighttime, they will come.
31	10:47.4 - 10:58.3	Malayalam speaking
32	10:58.3 - 11:35.2	A: 2-3 days before, some people went to outside for religious function, religious tour. they were going to the temple. so for that they called him in the morning. Y: is he going? A: yes. he does not have proper rest. Y: yes, yes!
33	11:35.2 - 11:56.6	Malayalam speaking V: She said "Flooding occurred here, right? When it was flooded the house was submerged in water. That's how it got cracks and gaps. Then...because of the lack of money we are not able to maintain it. Water entered till here...to half of the height (gestures). Then the house got cracks and gaps. More than that dust from it is a greater problem...shall get breathing troubles."
34	11:56.6 - 12:09.3	A: When they came (after flood), water level was still much.
35	12:09.3 - 12:19.2	Malayalam speaking Y: Till where the water entered here? V: She said "Till that side..." Y: Where? till that tiled area? V: She said "Yes. above that. (showing it)"
36	12:19.2 - 12:46.6	A: she is telling that water came...
37	12:46.6 - 13:06.5	Malayalam speaking V: She said "It will not be like this after some period of time...as water level rises it will be full of water in the courtyard. The land level has decreased so when it rains the condition is worse. During the flood water entered the house and damaged it. Now we need the maintenance work."
38	13:06.5 - 13:21.2	A: she is telling that there is a tide when water level increases. at that time in front side there will be lots of water. and it is also not affective to build a house. there is no maintenance.
39	13:21.2 - 13:55.5	Malayalam speaking

40	13:55.5 - 14:42.7	A: she is telling that her mother-in-law died 3 months ago. before that she had an accident. she went to hospital nearby. at that time, she had a delivery. it was so early. during delivery time they had to spend money. Y: What kind of accident?
41	14:42.6 - 17:13.8	Malayalam speaking A: she was waiting for the bus and stayed under the car. A: They didn't get money either after her mother-in-law died. Malayalam speaking A: they have to get money due to this accident but it takes 2-3 years to get the money. Malayalam speaking
42	17:13.8 - 17:39.5	Malayalam speaking V: She said ""We don't get anything even from the panchayat. I have applied for the maintenance but rejected telling the rules of the coastal area.""
43	17:39.5 - 17:58.9	A: when she complaint about that, panchayat rejected them. Y: why? A: because maintenance can be done for only this much of meter. this is not.
44	17:58.9 - 18:10.4	Malayalam speaking Y: Did anyone come to check the house? V: She said "Nobody came. We got Rs. 10,000 after the flood. Other than that we had got nothing."
45	18:10.4 - 18:33.9	A: she is telling that even they came to check and simply rejected. when the flood came, they got 10 000 rupees. In the other side, they got 60 000 rupees.
46	18:33.9 - 18:34.0	Y: does she know anything about that?
47	18:39.0 - 19:05.4	Malayalam speaking V: She said "I don't know who exactly got it but it was like that. Ah, you know how it is? The primary structure completed houses got Rs. 1000, since our house is that we got that amount. Roof tiled houses, houses on more sinked grounds got Rs. 60,000...like that...I don't know anything more accurately".
48	19:05.7 - 19:42.3	Malayalam speaking
49	19:42.3 - 20:20.4	Y: did her mother-in-law stay at hospital in mainland after accident? Malayalam speaking
50	20:20.4 - 21:37.8	A: she is telling that they were in the private hospital in xxxxxxxxxxxx. Malayalam speaking Y: how did they carry her back into the island after hospital time?

51	21:37.8 - 21:49.2	Malayalam speaking
52	21:49.2 - 22:11.1	A: she is telling that..... Malayalam speaking
53	22:11.1 - 23:06.1	A: she is telling that her mother-in-law was taken from hospital. at that time, she was not able to walk. Malayalam speaking A: there was a wheelchair for mother-in-law. it is easy for them to bring to this island. Y: by this boat? but her husband's boat is very small.
54	23:06.1 - 23:17.3	Malayalam speaking
55	23:17.3 - 23:28.2	A: she is telling that wheelchair were inside at that boat, it was fine to bring that wheelchair.
56	23:28.2 - 23:56.1	silence
57	23:56.1 - 24:47.8	Malayalam speaking
58	24:47.8 - 24:51.1	Y: okey we can continue. how is your relationship with others living in the island?
59	24:51.1 - 25:07.0	Malayalam speaking
60	25:07.0 - 25:22.7	A: she is telling that everybody is fine. if there is a function, everybody will go. each house has different functions. Y: what kind of functions?
61	25:22.7 - 25:37.2	Malayalam speaking A: wedding, funeral, any function. Y: how do they share these functions?
62	25:37.8 - 26:21.8	Malayalam speaking
63	26:21.8 - 26:26.1	Malayalam speaking
64	26:26.1 - 28:07.9	A: She is telling that islanders are not that much to this family. Y: what does it mean??? A: the islanders are not that much...there is no efficient to this family for those islanders. because they have been here for just 20 years. and when her mother-in-law died, at that time..... A: at that time no one came. they just ordered food from outside. Y: Didn't anyone cook? A: No. Noone helped them and they ordered the food from outside. Y: Why did not they come? A: they don't know. she is telling that because they have been living here for just 20 years. at the nighttime, no one was there. in the morning, they were able to order food from outside.

65	28:07.9 - 28:13.0	Y: Can you ask when did their father get this paddy field?
66	28:13.0 - 28:42.2	Malayalam speaking Y: when did they get this paddy field?
67	28:42.2 - 28:53.3	Malayalam speaking Y: You said that there had been cultivation...when was it done? V: She said "It has been many years. Nearly 18 years." Y: Was it done only once? V: No, it had been done for generations.
68	28:53.3 - 29:23.5	A: it was generations and generations before. Y: when did they come back to this island again?
69	29:23.5 - 29:52.2	Malayalam speaking
70	29:50.0 - 30:44.2	A: actually they are telling that his father..... Malayalam speaking A: his father sold that land, had a very nice house in other side. now that area is pretty nice. they are saying that everything could be changed. his father sold that land and bought this land over here. because they had a paddy field. Y: that is why. A: yeah. that is why. they had a paddy field and they sold that land on the mainland. Y: just to make a fishing and cultivate rice? A: yeah
71	30:44.3 - 31:07.8	A: she is telling that if they had land over there, it would be fine. they could have lived in somewhere else. they would not have suffered so much.
72	31:07.8 - 31:29.4	Malayalam speaking
73	31:29.4 - 31:53.9	Malayalam speaking
74	31:53.9 - 32:03.3	Silence
75	32:03.3 - 32:08.3	Y: How did her husband get this job? is government paying him, right?
76	32:08.3 - 33:06.2	Malayalam speaking
77	33:06.2 - 34:53.9	A: She is telling that it was a tender. tender means panchayat provides a boat and it needs a driver. if anyone interested in, they could apply for it. it depends on how much amount less you write and give them. and they get the job. her husband wrote 28. Y: 28? A: yeah, 28 per month. he got the wage.

		Y: 28 000? A: yeah 28 000. and that is how he got the job. Y: It was not a fixed price contract. A: no, because the less you write and give to them, the more they will accept. lots of people want to apply for. her husband wrote 28000 and he got the job. after that, it is 28000 means he will get 17 000 in his hands. Y: Why? A: because he has to take fuel. so all together...
78	34:53.9 - 35:12.2	Malayalam speaking A: 17000 per month. Malayalam speaking
79	35:12.2 - 35:35.9	A: has been doing this job for just one year. Y: 1 year. before that? A: before that he was working in outside. and when the covid came, they were not able to work. so at that time, he applied for that job.
80	35:35.9 - 35:49.4	Malayalam speaking
81	35:49.4 - 36:00.7	A: she is telling that I asked, ' it is just for 1 year?.' after one year, he has to apply again or has to go somewhere else.
82	36:00.7 - 36:31.4	Y: what kind of special days are they celebrating in the island? Malayalam speaking
83	36:31.4 - 36:53.0	A: she is telling that if there is just function, everyone will come. if it is a special day like Onam, everyone will celebrate their own.
84	36:53.0 - 37:02.6	Y: how do they provide their drinking water?
85	37:02.6 - 37:56.8	Malayalam speaking
86	37:56.8 - 38:43.9	A: she is telling that when she got married and came to this island, there was no proper connection. each house had pipe connection but they were getting water with barge. and after that for 6 months, they did not have water from connection because that pipe has damaged. they did not get water. and they complained to the panchayat and they did proper pipe connection. they put this pipe under the water to get the water. now there is no problem. Y: when did it happen?
87	38:43.8 - 39:11.8	Malayalam speaking A: 9 years ago.
88	39:11.8 - 39:28.7	Y: okey, which hospital do they go if needed? Malayalam speaking A: Njarakkal Government hospital.
89	39:28.7 - 39:38.1	Y: is there any good thing about living in this island?

90	39:38.1 - 39:47.2	Malayalam speaking
91	39:47.2 - 40:02.5	A: There is nothing. Malayalam speaking
92	40:02.5 - 40:30.5	A: She is telling that there is no such happening here. she has come from outside, her city was very nice. Malayalam speaking A: she is telling that if she had a chance to leave this island, she will definitely go.
93	40:30.5 - 40:47.9	Malayalam speaking
94	40:47.9 - 41:23.4	Malayalam speaking
95	41:23.4 - 41:29.5	Malayalam speaking
96	41:29.5 - 41:50.1	Malayalam speaking
97	41:50.1 - 42:27.5	A: she is telling that if they sell this property this land, they also will get a proper amount. they won't get a new land over there with this amount of money. it is also difficult. if they try to sell this and try to move there, it will be difficult.
98	42:27.5 - 46:43.8	Malayalam speaking
99	46:43.8 - 49:12.6	Malayalam speaking
100	49:12.6 - 55:37.4	Malayalam speaking
101	55:37.4 - 55:41.6	A: She is asking did we have a breakfast? Y: yes, yes. we did. A: what did you have? Y: some snacks and bread.
102	55:41.6 - 57:20.3	Malayalam speaking A: she wants to breastfeed her baby. (BREAK)

Part2

	Timespan	Content
1	0:00.0 - 0:31.7	Y: we saw a small temple behind the house. What is that? A: what? Y: small temple at the back of the house. A: it is not temple, statue. that is it.
2	0:31.7 - 0:40.1	Malayalam speaking

3	0:40.1 - 0:44.5	Y: what is this meaning of this statue?
4	0:44.5 - 1:17.4	(Baby is crying)
5	1:17.4 - 1:58.4	Malayalam speaking
6	1:58.4 - 2:07.4	Malayalam speaking
7	2:07.4 - 2:23.3	Malayalam speaking
8	2:23.3 - 2:36.8	Y: what is the function of this statue? A: in our area, we just put a small statue.
9	2:36.8 - 3:06.4	Malayalam speaking
1 0	3:06.4 - 3:24.2	Malayalam speaking
1 1	3:24.2 - 3:40.6	A: she is telling that it is just for snakes. they worship the snake. It is a kind of worship. Y: hmm A: I will send the details on WhatsApp.
1 2	3:40.6 - 4:10.0	Malayalam speaking
1 3	4:10.0 - 4:18.9	Y: Ancy, is their oldest child going to school? A: yes
1 4	4:18.9 - 4:42.2	Malayalam speaking A: there is school there. Y: Which school? A: Saint marry. it is run by the Christian sisters. she is going to that one.
1 5	4:42.2 - 5:04.8	Malayalam speaking. Y: Ancy, do you remember the lady we met yesterday , they told us they are making some educational activities for children? does she join?
1 6	5:04.8 - 5:19.3	Malayalam speaking
1 7	5:19.3 - 5:36.0	A: she is telling that not now. it did not start. Y: it means she did not join. A: she said it did not start until now. It is going to start. Y: but she said they are doing now. A: yes.
1 8	5:36.0 - 5:46.2	Malayalam speaking.
1 9	5:46.2 - 5:56.3	A: she is telling that here people are telling something else something else. it is not certain. it might start one day.

2 0	5:56.3 - 6:06.8	Malayalam speaking.
2 1	6:06.8 - 6:11.0	A: She is telling that she is not working in kudumbasaree.
2 2	6:11.0 - 6:35.8	Malayalam speaking.
2 3	6:35.8 - 8:10.8	Malayalam speaking.
2 4	8:10.8 - 8:13.7	Y: How often do they go to the mainland?
2 5	8:13.7 - 8:46.1	Malayalam speaking. (baby crying)
2 6	8:46.1 - 8:53.4	A: she is telling that she doesn't go much. if she has any medical emergency, she can go.
2 7	8:53.4 - 9:06.0	Malayalam speaking. (baby crying)
2 8	9:06.0 - 9:09.7	Y: What kind of facilities do you want to have in the island?
2 9	9:09.7 - 9:15.9	Malayalam speaking.
3 0	9:15.8 - 9:17.0	A: She is telling that road and bridge.
3 1	9:16.9 - 9:17.7	Y: Is there anything else?
3 2	9:17.7 - 9:25.1	Malayalam speaking.
3 3	9:25.1 - 9:29.0	A: she is telling that if everyone house is pretty better, it will be fine.
3 4	9:29.0 - 9:35.7	Y: do you know anything about history of the island?
3 5	9:35.7 - 9:45.4	Malayalam speaking V: She said "No, I only knew that there were only a few people in very early times, later on people came here gradually."
3 6	9:45.4 - 9:50.8	Malayalam speaking
3 7	9:50.8 - 9:58.8	Malayalam speaking
3 8	9:58.8 - 10:13.2	A: she is telling that in earlier times, there was no many houses and people were not living in this island and after few years people started living in this island.
3 9	10:13.2 - 10:55.2	Malayalam speaking (baby is screaming)

4 0	10:55.2 - 11:21.1	Malayalam speaking
4 1	11:21.1 - 12:11.9	Malayalam speaking
4 2	12:11.9 - 12:42.4	(showing pictures) A: her father-in-law and her father all together. Y: when? A: it was 18 years before. Y: did her husband born here? A: not in this island. in the other side Y: is there anyone in this island converted their agricultural land to the residential land?
4 3	12:42.4 - 12:52.6	Malayalam speaking A: no, there is none.
4 4	12:52.6 - 13:16.3	Y: have you ever had a change in your land? Malayalam speaking A: no. Y: when we looked at satellite images, noticed that island is becoming larger year by year. how is it happening?
4 5	13:16.3 - 13:53.7	Malayalam speaking V: She said "You are saying the land is extending. Is it? " Y: Yes . Do you know any reasons for it? V: She said "No, I don't know about it. "
4 6	13:53.7 - 13:53.8	A: she doesn't know.
4 7	13:53.7 - 14:16.6	Malayalam speaking V: She said "Actually the land level has decreased here. In the early times there was very fine sand. If you threw the sand, dust flew. Now land has submerged almost its ¾ level. We had a good variety of mango trees in front of our house, most of the people had different kinds of trees on their compound but as the saline water entered there every tree got died off. "
4 8	14:16.6 - 15:11.8	A: She is telling that now land is becoming to the water day by day. not day by day. year by year this land has been decreasing to the water. at the earlier times, it was just soil. now it is just full of mud there. she is telling that after so many years this island will be under the water. maybe... like...god gave the land and will take back. that is it.

4 9	15:11.8 - 15:16.2	Malayalam speaking Y: Did you make any change in your house since it was first built?
5 0	15:16.2 - 15:28.0	Malayalam speaking
5 1	15:28.0 - 15:44.7	A: this house was just shed. after that they built this house. Y: okey. that is all. is there anything to add?
5 2	15:44.7 - 16:14.2	Malayalam speaking
5 3	16:14.2 - 17:47.1	A: she is telling that they want from their children study more. they want road and bridge. both should have in this island. main thing is children's education. they need money for this damaged house. they just need to renovate this house as soon as possible. if the government supports, it would be fine. Y: can you ask why are they writing phone numbers on wall? A: I asked them before. she said her phone damaged and at that time, she wrote there because of this.

Interview No. 10

	Timespan	Content
1	0:00.0 - 0:32.1	Y: Can she introduce herself please? Malayalam speaking A: Her name is xxxxxx.
2	0:32.1 - 1:05.1	Y: how old is she? Malayalam speaking A: 65
3	1:05.1 - 1:20.1	Malayalam speaking (asking house name) Y: what is house name? A: Same name. Marangattuthara.. Y: can you ask do they know the meaning of the house name?
4	1:20.1 - 2:16.6	Malayalam speaking
5	2:16.6 - 2:51.5	A: she is telling that this name has been written lots of years before. the name has been passed in each generation. other cousins have also same name. Y: they dont know the meaning. just put this name generations before. could you tell me about little bit yourself?
6	2:51.5 - 4:09.0	Malayalam speaking V: She said "To tell you about me... I was married and brought here. My native place is Paravur. During the time when I came here all were impoverished, didn't even have a day's meal. My husband had to earn to meet the needs of the whole family(joint family that included his 3 sisters.) All had to be feeded. We cooked less rice and served less to feed all. Such was the time. This was when we were staying in the ancestral home. When we shifted from there things got better and as our children earn now, we are relieved. These places were all paddy fields. "
7	4:09.0 - 4:15.3	A: she said that she was married and brought here.
8	4:15.3 - 4:21.9	Malayalam speaking Y: When were you married? V: She said "I was 21 years old."

9	4:21.9 - 5:38.6	A: When she was 21 years old and got married and brought to this island, at that time in this island, there was no much houses, no source for them to stay in this island. he was the only person who was working in the family. and it was a joint family. he was the only one who goes to work and earn money. he was the pillar of the all house. it was joint family. when he brought the rice, they cooked and shared it. Y: They had a father in law and mother in law in the same house, right? A: yes. also the cousins and relatives were also there. because it was a joint family. joint family means they live as a very big family. y: Okey, what is she doing now?
1 0	5:38.6 - 6:42.6	Malayalam speaking Y: What job do you do now? V: She said "I don't work now. I used to do some kind of work like sweeping and cleaning in xxxxx and showrooms. When they remained closed during the pandemic I stopped it. Also I'm old and not well now." Y: What about fishing? V: Yes, I do as I'm free now. Y: How do you fish? V: She said "That.....we get into the water, stay there half immersed and search for fishes, prawns or crabs with our hands. So when anything comes near our hands we just grab it. "
1 1	6:42.6 - 7:22.0	A: she is telling that she was working at a hospital in clinic department. after covid, she left this job. when she came back, she started doing house-works and fishing, what she was doing is that she search fish in the water with herhand. they will just search, they will catch and put into pot. Y: Do they have any pond or paddy field here?
1 2	7:22.0 - 7:38.7	Malayalam speaking Yes. We owned paddy fields, some in front of the house.
1 3	7:38.7 - 8:49.0	A: she is going. Malayalam speaking A: They had a little bit land. They had a little bit paddy field. in that, half was fishing half was paddy field. they had a little bit in the front side. now also they have little bit. now they are not using. Y: but they still have but not using. A: yeah. Y: why?
1 4	8:49.0 - 10:26.9	Malayalam speaking V: She said "We have leased it out. So people who took it for lease are the one who do the farming there. We are supposed to get a share but we

		don't ask for it as it is a joint ownership and our uncle is in charge of it. As he takes care of our fathers 4 sisters we dont ask the share."
1 5	10:26.9 - 11:44.1	Malayalam speaking Y: what is his husband occupation?
1 6	11:43.0 - 12:20.5	Malayalam speaking V: She said "He used to excavate sand from the river. Now he does not do that. It's been almost 25 years now since he stopped working as he had my eyes surgery. Still he face problems with visions, so he does not want to worsen it by dipping in the water for the job."
1 7	12:20.5 - 12:36.0	A: He was working... he was a part of a group of guys who takes soil and mud under the water. he was having this job earlier. Y: where was he doing this job?
1 8	12:36.0 - 12:43.5	Malayalam speaking V: She said "Mostly in the western part of the island."
1 9	12:43.5 - 13:03.8	A: it is like in front areas. It depends on people who tell them to do this. he gets from different places. now he looks after the buffalos and cuts the grasses and feeds them. Y: Can she describe her typical day?
2 0	13:03.7 - 13:41.9	Malayalam speaking
2 1	13:41.9 - 14:03.3	A: she was telling that.... he cuts the grass and give them. she daily goes for fishing, searching for the fishes. And today she has a little bit headache that is why she didn't go today. that is why she is here. Y: How is their relationship with others in the island?
2 2	14:03.3 - 14:24.7	Malayalam speaking
2 3	14:24.7 - 14:42.0	A: she is telling that they are fine with every neighbour. there is no issue no fight. Y: Are they helping each other, supporting each other? can you ask?
2 4	14:42.0 - 15:13.8	Malayalam speaking
2 5	15:13.8 - 15:55.1	A: she is telling that if someone is ill in this island... Malayalam speaking
2 6	15:55.1 - 16:48.7	A: she is telling everyone is cooperating with each other. but there is no development. A: no development. like bridge and road. she was telling that there is a kudambasaree. if someone is from kudambassere, this group of ladies join together and put the fund for them as possible as they can. These islanders and few people from other side join together and they cooperate with each other, they put sufficient fund and they made waiting shed. Y: Waiting shed? A: yeah, you know near that boat jetty.

		Y: hah, yes. when did they made this shed?
2 7	16:48.7 - 17:36.8	Malayalam speaking V: She said "Initially it was made of wood but after the rainy season it would be shattered. So we concreted and trussed it. Now it's almost 5 years. It has been done for us to rest when we wait for the boat to cross the river and not to be drenched if it is rainy but we don't benefit much from it rather the mainland dwellers do. They come and sit there for leisure and we don't get space to sit. We registered complaints but in vain. "
2 8	17:36.8 - 18:32.4	A: This shed is for them, but other people are using that. because they built that shed for them to wait if there is a rain. it is for the children also. but those guys are sitting there. they are from the that island itself. (referring the mainland) they are sitting over there. they are not able to sit if there are lots of people, right? and it was made 4-5 years ago. and that shed's base is concrete and it is more beautiful than older. older one was wooden; it was made of wood. in every raining day, it was getting spoiled. Y: before the new one? is there any possibility to made one in the island?
2 9	18:32.4 - 18:59.0	Malayalam speaking V: She said "We had built it but wind affected it. It was blown away."
3 0	18:59.0 - 19:34.4	A: they actually made a shed but there was no maintenance. it had gone due to wind. Y: they built one but it has gone. A: Yeah. Y: can you ask Ancy? they are getting together and then finding some fund for something else. how is it happening? are they discussing and or going to somewhere to apply? how is the process?
3 1	19:34.4 - 19:40.0	A: to build something? Y: yeah, for public use.
3 2	19:40.0 - 20:15.7	Malayalam speaking V: She said "A bulk amount cannot be donated by any of the people of this island. So for any arrangements for the public we collect money as possible from the people. It can be any amount that if just Rs.100 is possible even that do."
3 3	20:15.7 - 20:51.9	A: she is telling that here everyone does not have that of sufficient money. if one family wants to do something for these islanders for public, they cannot. because they don't have that much money. so everyone puts a little bit of share as they can. that is how they took everything. Y: then, they are collecting money themselves. they are not applying for a fund. A: no, no. Y: Can you ask is there any place people can meet in the island
3 4	20:51.9 - 21:05.1	Malayalam speaking

3 5	21:05.1 - 21:28.3	A: this site. (referring the place where buffalos are feeding) people can join together. Y: place where buffalos are feeding A: Yeah. if they join together for a meeting just to talk each other, they join together there. Y: within family, or with other families? A: no, everyone. Y: Okey.
3 6	21:28.3 - 21:38.1	Malayalam speaking V: She said "It all taken up by the nature."
3 7	21:38.1 - 21:49.1	A: You know the water level is increasing. there are lots of grass there. earlier days, there was not much grass there. they were able to sit and chat
3 8	21:49.1 - 21:54.1	Malayalam speaking
3 9	21:53.7 - 22:16.5	A: children were playing football in this ground. if there is no grass, they can play, right? now they are not playing and no one is sitting there. so grass is growing very much. Y: Do they know history of the island?
4 0	22:16.5 - 22:21.6	Malayalam speaking (Ancy is asking)
4 1	22:21.6 - 22:32.6	Y: Did their grandparents tell any story? Malayalam speaking (Ancy is asking)
4 2	22:32.6 - 23:00.7	Malayalam speaking V: She said "We stayed on the eastern side, near the grove. That area was converted for fish farming."
4 3	23:00.7 - 23:02.7	A: actually they were staying at that side.
4 4	23:02.7 - 23:09.7	Malayalam speaking V: Yes, we were on eastern side of that abandoned house.
4 5	23:09.7 - 23:14.4	A: did you see that broken house over there? they had this house.
4 6	23:14.3 - 23:21.6	A: that was his father's house.
4 7	23:21.6 - 23:26.4	Malayalam speaking V: She said "We lived there almost 13 years."

4 8	23:26.4 - 23:39.5	Y: Sorry what? later did they returned to the bund? A: Later, they made a bund for fishing and paddy field at the earlier times. Y: ok, is plot theirs?
4 9	23:39.5 - 23:51.8	Malayalam speaking V: She said "No, it doesn't not belong to any of us. The owners are somebody else. It was used to store grains."
5 0	23:51.8 - 24:29.1	A: they have been lived for 13 years. and that is not their property. it is used to keep rice. just a storage house. Y: Then. they moved to here. A: yes.
5 1	24:29.1 - 24:37.0	Malayalam speaking Y: So you owned this current property before? V: She said "No, we bought it."
5 2	24:37.0 - 24:50.9	A: they bought that place. (referring previous place) They were staying there. after that they bought this place and they came to this place.
5 3	24:50.9 - 24:57.3	Y: Did his father buy this place? A: his father's father. his grandfather. Y: okey.
5 4	24:57.2 - 25:13.5	Malayalam speaking Y: Who built the previous house? V: She said "It was built by my husband."
5 5	25:13.5 - 25:34.6	A: the older house was built by him. You saw the old photo, right? y: in this plot. A: yes. Y: let me check. they were living there just for fishing A: Also for and paddy field. Y: Then they bought this land, moved here. when did they move here?
5 6	25:34.6 - 26:02.9	Malayalam speaking V: She said "The property was bought by our father. Probably 40 years ago because it was in our marriage year when we started the construction of the house. It may have been almost 40-45 years ago."

5 7	26:02.9 - 26:21.3	A: 40-45 years before. because when she was married and brought here, at That time, this house was new. Y: And he built this house. A: not this house. old house. (Note to myself: First they lived in a small area in the northeast of the island, then they bought a plot of land from the current settlement on the island and built a new house here about 40 years ago. At that time, the woman got married and came here. Then they built a new house. They renovated this house 7-8 years ago.) Y: yeah. Old house okay. this also built by him also?
5 8	26:21.3 - 26:32.6	Malayalam speaking
5 9	26:32.6 - 26:51.4	Malayalam speaking
6 0	26:51.4 - 27:27.5	Malayalam speaking
6 1	27:27.4 - 27:39.1	Y: is there anything about the history of the island? they started to say .. they were living there....
6 2	27:39.0 - 28:29.0	Malayalam speaking V: She said "It was marshy here. It was a great effort to gather the land and sustain it to make it suitable for dwelling."
6 3	28:29.0 - 29:06.2	A: when the water level is high, water enters to their houses. older generation people, they, actually built a very huge wall between water and this area. did you see that thing? (she is showing boundaries of the island) A: it is little bit high from the plot. they actually made that. from under the water they got mud and soil. and put on top of it. that is how they prevented water to enter this island. Y: when did they build?
6 4	29:06.2 - 29:40.2	Malayalam speaking V: She said "We needed to block water from entering our courtyard. So we brought a JCB and did it." Y: How was the JCB brought here? V: Using boats.
6 5	29:40.2 - 30:11.4	A: He was telling they bought GAC for a rent. they transported with a big boat to this island and put in the bund. it makes easier, right? Y: and when?

6 6	30:11.4 - 30:33.0	Malayalam speaking V: She said "We do it every year else the boundary will not be maintained."
6 7	30:33.0 - 31:29.3	A: they have to do this every year. Y: really... A: yes, they have to do this every year. Because every year land is decreasing. Y: it is for land boundary, right? A: yeah. land boundaries.

Part 2

	Timespan	Content
1	0:00.0 - 0:19.0	silence.
2	0:19.0 - 0:26.3	A: is it recording? Y: yes, it is recording. do you know anyone who has recently converted their agricultural land to the residential land in this island?
3	0:26.3 - 1:50.6	Malayalam speaking V: She said "It had been done near our ancestral home. Our home was built by filling up the land in the past. Almost 13-14 cents were filled up for the construction."
4	1:50.6 - 2:06.1	Y: When it happened?
5	2:06.1 - 2:38.5	Malayalam speaking V: She said "The home was built by my father. I don't remember the year."
6	2:38.5 - 2:57.4	A: it has been done by his father's father. and he does not know the date. Y: around? A: maybe 100 years before. Y: how did they do this extension?
7	2:57.4 - 3:11.8	Malayalam speaking V: She said "Dig up mud and soil from the river and fill the land."
8	3:11.8 - 3:54.4	A: Actually they got the soil from under the water and got in a boat. and transferred this soil to on top of this island. covered by little bit and little bit. How they made land to stay is that they collected mud and soil from under the water into boat from somewhere else. and put these soil and mud on the top of water. and that is how covered. Y: they are collecting from somewhere else? A: yeah, from the river.

		Y: how are they constructing the bund?
9	3:54.3 - 4:26.2	Malayalam speaking V: She said "Bund???" Y? Yeah through which we walk. V: She said " Oh, <i>chera</i> (the footpath). That's done similarly, filling up with mud like a bridge. Either stones or sheets are used to hold the mud in water."
10	4:26.2 - 4:57.0	A: First, they will put the sheets in the centre and put the soil and mud inside the sheet. soil will be stuck inside, right? after that they removed from these sheets. and that is how they will put more and more on top. Y: who determined these boundaries of paddy field?
11	4:57.0 - 5:16.3	Malayalam speaking V: She said "Somebody will be there to monitor it. Either it would be the owner or his assistants."
12	5:16.3 - 5:56.7	Y: In this island, is it common to fill the water? did they see anyone?
13	5:56.7 - 6:10.2	Y: They saw this at grandparents time. but nowadays did they see anything about extension of land?
14	6:10.2 - 6:26.8	Malayalam speaking V: She said "Nothing like that anymore."
15	6:26.0 - 6:30.6	A: now it is not happening. older days it was. Y: Can you say ask them about extension of the island?
16	6:30.6 - 7:08.8	Malayalam speaking Y: You know Why it is being asked....satellite images show that the land on the island increases. So do you know any reasons for it? V: She said "They were clueless and said they had no idea. "
17	7:08.8 - 7:12.1	A: They actually don't know.
18	7:12.1 - 7:25.2	Malayalam speaking. ancy is explaining.
19	7:25.2 - 7:30.4	Malayalam speaking A: They don't know.
20	7:30.4 - 7:40.7	Malayalam speaking V: She said "We don't think so. As the water increases it takes away the land. So chances are more that the land decreases."
21	7:40.7 - 7:58.1	Malayalam speaking
22	7:58.1 - 8:06.9	Y: What are the good things about living here? Malayalam speaking (Ancy is asking)

23	8:06.9 - 9:20.8	Malayalam speaking A: Nothing is there. Y: What is she telling exactly? A: She is telling that there is no good reason to stay here. water level is increasing. and... Malayalam speaking A: actually when water level is very high, more than the normal, water will be in front of these areas. they won't able to go anywhere. it will be full of mud.
24	9:20.8 - 9:25.6	Y: how did their life changed after the flood in 2018?
25	9:25.6 - 9:30.2	Malayalam speaking (Ancy is asking)
26	9:30.2 - 9:38.5	Malayalam speaking
27	9:38.5 - 9:50.7	A: she is telling that if they have a job, they will be fine. if they don't have a job, they won't be able to do anything.
28	9:50.7 - 10:04.8	Malayalam speaking
29	10:04.8 - 10:23.7	A: When the flood came, water was in front of their house. they took everyone from this place to another island. there was a school. they were having shelter in this school at that time. Y: when did they come back to island?
30	10:23.7 - 10:29.5	Malayalam speaking (Ancy is asking)
31	10:29.5 - 10:44.0	Malayalam speaking A: 5-6 days after. Malayalam speaking A: when the water fully has gone from this island, they came back. Y: how often do they go to the mainland?
32	10:44.0 - 10:51.2	Malayalam speaking (Ancy is asking)
33	10:51.2 - 11:25.6	Malayalam speaking
34	11:25.6 - 11:34.8	A: Sometimes they have to go more than 4 times. They don't get anything from the island, right? Y: In a week?
35	11:34.7 - 11:55.7	A: no, in a day. because they have to buy anything from that side. and if something is not over, they will ask nearby house and they will help. so if they also don't have, they have to go to other land. Y: You know now there is a boatman paid by government. how was it before?
36	11:55.7 - 12:01.7	Malayalam speaking (Ancy is asking)

37	12:01.7 - 12:14.6	Malayalam speaking
38	12:14.6 - 12:33.6	A: in older days, everyone had their own boat. at that time everyone were going and coming on their own. Y: really? A: now panchayat allowed a boat and a guy to transport them.
39	12:33.6 - 12:36.7	Y: how was the life before? is there any change?
40	12:36.7 - 13:00.6	Malayalam speaking
41	13:00.6 - 13:24.9	A: they have food nowadays, in older days, they didn't have that much food. and at that time, they were actually struggling to get one day meal. even a meal. that time was very difficult for them to get a rice. now it is fine. they get everything.
42	13:24.9 - 13:38.1	Y: what are the difficulties of living here?
43	13:38.0 - 13:42.2	Malayalam speaking (Ancy is asking)
44	13:42.2 - 14:02.9	Malayalam speaking
45	14:02.9 - 14:40.7	A: if they are not well, they have to cross river by boat. so it is very difficult for them. people are scared when they get older. because if something happens, everyone has to lift them in a wheelchair and to get transported from this island to other side. it is only way they can reach to hospital. that is the main problem. Y: how do they go to mainland in case of emergency when outside of boat schedule?
46	14:40.7 - 14:47.3	Malayalam speaking (Ancy is asking)
47	14:47.3 - 14:58.0	Malayalam speaking
48	14:58.0 - 15:06.0	A: they have to call that guy and tell him to cross that people.
49	15:06.0 - 15:35.1	Malayalam speaking
50	15:35.1 - 16:39.3	A: In older days.. That guy has taken for one year. before that, it was boatman who was from the mainland. if the person is from this island, that is easy for them to call. they can call them. if it is from the other side, it is very difficult. because boat will be other side. they have to call him on phone. Y: or they go to him house, right? A: yes. Malayalam speaking
51	16:39.3 - 16:53.0	Malayalam speaking
52	16:53.0 - 17:00.7	Malayalam speaking

53	17:00.7 - 17:04.3	Malayalam speaking (Ancy is asking)
54	17:04.3 - 17:10.6	Malayalam speaking
55	17:10.6 - 17:18.9	A: They are asking for a bridge. the main thing is Malayalam speaking
56	17:18.9 - 17:37.8	A: they are telling that they just need a road and bridge. if that is done, they will be fine.
57	17:37.8 - 17:57.2	Malayalam speaking
58	17:57.2 - 18:44.5	A: people are having scooters and motorcycle and parking at other side. main problem is that other guys are stealing fuel from park. Y: really? A: yeah.
59	18:44.5 - 18:56.0	Malayalam speaking
60	18:56.0 - 19:14.4	A: actually government has sanction for the road not for the bridge. actually when the road is constructed, the bridge will be constructed. they need construct a road firstly. Y: yeah, that is the issue.
61	19:14.4 - 19:30.6	Malayalam speaking
62	19:30.6 - 20:03.7	Malayalam speaking
63	20:03.7 - 20:18.1	Malayalam speaking
64	20:18.1 - 24:19.9	A: this is Manjanakkad. she is reporter. this island. (showing a video about bund-making) this is bund. in the centre, they build a thing... Y: Where is there in the island, exactly? A: Other side. that side. that is how it has been done. first, they took the old thing and then only can build the new one. This is how the removed old one after that this is how.... they are labours. Y: they are not living in the island, right? A: no. no. and at last stage, they will stand. Y: Why this song? A: to synchronize.

Interview No. 11

	Timespan	Content
1	0:00.0 - 0:46.6	Y:today is 3rd of May. afternoon time. Can you 'introduce yourself please? V: My name is xxxx Y: My name is Yagmur. Nice to meet you. asking my country. Y: from turkey. V: turki?? Y: yeah, I am from Turkey. Varuna is explaining the research and my background briefly here.
2	0:46.6 - 1:00.2	Malayalam speaking V: he is 70 years old. Y: What is the house name, sorry? Malayalam speaking V: Marangattuthara.
3	1:00.3 - 1:12.6	Y: Can you write, please? V: yeah. Y: What is the meaning of the house name? can you ask?
4	1:12.6 - 1:30.1	Malayalam speaking V: He says "These all houses are Marangattuthara."
5	1:30.1 - 1:37.5	V: it is just a name. does not have a meaning. Y: are they sure? they might know.
6	1:37.5 - 1:47.3	Malayalam speaking
7	1:47.3 - 2:29.7	V: He says "Marangattuthara house (he repeats)" Y: No, does it have a meaning, anything like that? V: No...No...Its house name. V: it is just a house name. no meaning. Y: no meaning okey.
8	2:29.6 - 2:39.7	Malayalam speaking
9	2:39.7 - 2:43.6	Malayalam speaking

10	2:43.6 - 2:58.8	Malayalam speaking V Y: Okey. we are fine. could you tell me little bit about yourself?
11	2:58.8 - 3:07.1	Malayalam speaking
12	3:07.1 - 3:08.2	V: he is a fisherman.
13	3:08.2 - 3:17.4	Malayalam speaking
14	3:17.4 - 3:25.4	Y: how is his typical day? what is he doing in a typical day?
15	3:25.4 - 3:39.3	Malayalam speaking V: They do farm. Y: Can you translate full sentence because...
16	3:39.3 - 3:55.4	V: in morning, he goes to that farm. Malayalam speaking V: does fishing there. Y: Just fishing or Pokkali?
17	3:55.4 - 4:04.5	Malayalam speaking
18	4:04.5 - 4:10.3	V: there is not any agriculture now. they don't cultivate now. Y: just fishing V: just fishing
19	4:10.3 - 4:14.1	Malayalam speaking
20	4:14.1 - 4:15.3	Y: How long have you been here?
21	4:15.3 - 4:38.6	Malayalam speaking V: He says "Here? I have been here from my birth. I had been living on the eastern side of this island, later shifted to this house after the house there was sold. This house I'm living in now was bought in 1974. " Y: So, were forefathers all living on this island? V: Yes, forefathers all Have been living here.
22	4:38.6 - 4:41.7	V: He was here from his forefathers.
23	4:42.2 - 5:17.0	Y: how many people are living in this house? Malayalam speaking V: Should I write all those things? Y: No. just Malayalam words you can write. V: Okey, okey. okey. like Marangattuthara.. Malayalam speaking V: 10 people. Y: 10 people. who are they?

24	5:17.0 - 5:46.1	Malayalam speaking
25	5:46.1 - 5:57.9	V: He, his wife, his sons and their children.
26	5:57.9 - 6:04.1	Malayalam speaking
27	6:04.1 - 6:08.8	V: His sister is also staying with them. Y: that is all?
28	6:08.8 - 6:15.6	Malayalam speaking
29	6:15.6 - 6:25.1	V: only that. Y: how is your relationship with the other people in the island?
30	6:25.1 - 6:33.6	Malayalam speaking
31	6:33.6 - 6:42.9	V: very good. Y: what are they saying? V: what kind of relationship we are asking? Y: in case of emergency, are they helping each other?
32	6:42.8 - 6:45.9	Malayalam speaking
33	6:45.9 - 6:54.1	V: All they help. Y: What is he telling? V: They cooperate with everything in all case of emergency. Y: what kind of emergency?
34	6:54.1 - 7:02.6	Malayalam speaking
35	7:02.6 - 7:14.0	V: in any medical emergency or sometimes flood will be there. in that situation, people will help them. Y: How are they supporting?
36	7:14.0 - 7:59.7	Malayalam speaking Y: How about the conditions during a flood? Will only this part be flooded? In such cases will you go to other people's place? V: He says "During the last flood we were in camps. All people from here were there because the whole island was submerged." Y: How about any emergency on the island only? V: He says "In such cases, we would go to the other shore(main land.) No matter a hospital emergency, even for a shop we need to go to the other shore. We do not have any arrangements for that. "
37	7:59.7 - 8:23.9	V: During that flood time in 2018, all were evacuated. for everything they had to go to another island. no facilities here. even shopping was not available. Y: they went to mainland, and?

38	8:23.9 - 8:24.9	Malayalam speaking
39	8:24.9 - 8:34.0	V: it is like they are just living here. if you need anything, you need to cross to get there. Y: how often do they go to mainland?
40	8:34.0 - 8:45.1	Malayalam speaking
41	8:45.1 - 8:57.0	V: it is daily basis you need to go there. Y: how do you provide your drinking water?
42	8:57.0 - 9:07.5	Malayalam speaking V: He says "We get drinking water now. We have got a drinking water connection." Y: How about the availability of water? V: He says "Water is available on alternative days. "
43	9:07.5 - 9:19.0	V: on alternate days they get the drinking water. they have their private connection here. private connection is available. Y: which one? this? V: that one.
44	9:19.0 - 9:29.7	Malayalam speaking
45	9:29.7 - 9:35.7	V: They have connection and get the water. Y: okey. When did they construct this pipe?
46	9:35.7 - 9:52.7	Malayalam speaking Y: How long has it been since you got the water connection? V: He says "We got it before we rebuilt our house. Almost 6years back."
47	9:52.7 - 9:59.9	V: 6 years. Y: 6 years. very new. before that??
48	9:59.9 - 10:04.0	Malayalam speaking Y: Before that how did ypu get water? V: He says "Before that we got it from the public tap. There is a public tap on the island. It was installed in 1975."
49	10:04.0 - 10:10.3	V: they had a public tap. Y: in the island they had? V: yeah. Malayalam speaking
50	10:10.3 - 10:24.1	Y: They were providing from there. V: Yes. he also gets on alternate days. water will be available.

		Y: is water coming every day? or every other day? V: on alternate days.
51	10:24.1 - 10:39.6	Y: What are they doing in case of emergencies like health problems? and boat service is just from 6 am to 9 pm.
52	10:39.6 - 11:22.0	Malayalam speaking
53	11:22.0 - 11:46.8	V: Many houses have their own boat. but it is small one. but if they needed, they would take that one. Y: what types of activities would you do together in the island with other?
54	11:46.8 - 11:53.2	Malayalam speaking Varuna is asking Y: any festival?
55	11:53.2 - 11:59.0	Malayalam speaking
56	11:59.0 - 12:03.5	V: they have a festival in temple nearby. Y: which days?
57	12:03.5 - 12:12.6	Malayalam speaking V: in April. 17th. Y: which festival?
58	12:12.6 - 12:17.3	Malayalam speaking
59	12:17.3 - 12:28.4	V: temple festival. in April, 17th. Y: Is there anything different? just this festival?
60	12:28.4 - 12:34.6	Malayalam speaking
61	12:34.6 - 13:06.1	V: they have only temple here. Y: okey, is there any place in the island where people can meet for public use? place to meet with other people in this island? is there any specific place people can meet?
62	13:06.1 - 13:35.2	Malayalam speaking
63	13:35.2 - 13:51.4	V: They have open space there. if there is any festival anything like that, they can collect there. Y: Some buffalos are feeding in one place, this one? V: Ahh, yes yes yes.
64	13:51.4 - 13:55.9	Y: do you know history of the island? he might know.

65	13:55.9 - 14:11.3	Malayalam speaking Y: He might know. any story that his grandparents told him.
66	14:11.3 - 15:04.1	Malayalam speaking V: He says "Forefathers were indulged in agriculture. They had been into it from their childhood. Now there's no cultivation and all for almost 30 years. " V: forefathers were doing agriculture here. V: Basically they were all agrarian community. But for last 30 years, cultivation has not been done. Malayalam speaking. V: What kind of story do you need? Y: about the history of the island. When did people came here.. is there anything different?
67	15:04.1 - 15:46.7	Malayalam speaking V: He is the 5th generation. he has been here. he is living here. Malayalam speaking V: 4th or 5th generation. Malayalam speaking V: He is the 5th generation. actually he does not know anything what is that all story.
68	15:46.7 - 16:01.0	V: only thing is that he has been here. he is living here. Only that much. Y: maybe his grandparents told him a story about when they came to this island and why did they come?
69	16:01.0 - 16:50.1	Malayalam speaking Y: Do you have any idea on how long back your ancestors came to this island? V: He says "Can be calculated almost as 250 years back. The landlords were living on the other shore. Population was less on those days. So when someone gets married there, a boy would be brought along with the bride as child labour. Likewise a boy of around 8 years was brought from Thrissur. He was raised there. He got him married from here and settled here. We are all his descendants."
70	16:50.1 - 17:22.3	V: he is telling that landlord was staying in the mainland. when he got married, his bride came from Thrissur. Y: Thrissur is another place. V: Yeah. she brought a slave with her. what we call... slave also came with her.

71	17:22.3 - 18:08.4	Malayalam speaking V: He says "During those times there was child labour. Children were brought for cattle rearing. Poverty sustained during those times." V: he is saying that he is his successor of his forefathers. did you get me? Y: Little bit not totally. V: this slave is successor of his ancestors. Y: okey. V: the slave 8 years old when he came here. when he grown up, he got married himself. came here to this island. Y: he or grandparent? V: the slave. Y: okey. V: so actually he is saying that his forefathers are grandchildren of this slave. Y: okey. V: they came to this island and became inhabitant.
72	18:08.4 - 18:16.6	Y: how was the life before in the island? is there any change when compared to the past?
73	18:16.6 - 18:23.2	Malayalam speaking
74	18:23.2 - 18:24.8	V: Now they are getting drinking water
75	18:24.8 - 18:33.4	Malayalam speaking V: He says "Water was collected from the ponds from the mainland before the installation of the tap. "
76	18:33.4 - 18:43.7	V: They were collecting water from the pond before. but now they get the water from here.
77	18:39.4 - 18:51.1	Malayalam speaking V: He says "Those times there were only mud pots. There were no steel or aluminium pots like today. "
78	18:51.1 - 19:07.3	V: before they needed to collect water from mainland. they needed to go there and gets water and come back. it was really a task. Y: is there any difference? V: they get from here. Y: apart from that?
79	19:07.3 - 19:24.5	Malayalam speaking V: He says "During my childhood, we did not get good quality water. When a pot of water was brought, only a cup of water might be got to wash hair. So washing and cleaning were all done with saline water. Freshwater for cooking was only brought from the mainland."

80	19:24.5 - 19:33.3	V: Only potable water was available. for all other uses, they needed to take this salty water.
81	19:33.3 - 20:00.9	Malayalam speaking V: He says "My 3 children were taken daily to the mainland in the evening to make them bathe in the pond because there was no water here. "
82	20:00.9 - 20:06.8	V: even for washing and cleaning, they needed to go there and near that pond. Y: okey.
83	20:06.8 - 20:42.9	Malayalam speaking Y: Are there any problems faced other than water scarcity? V: He says "We do not face problems with it now." Y: Are there any changes other than that? V: He says "Yes..Yes... another thing is that we are debited after building the house because all the materials for the construction were unloaded in the mainland and were brought here in the boat that cost much. So we are debited now. "
84	20:42.9 - 20:53.4	V: so materials for construction has to be brought here. so that... it is very expensive. they need a transportation for all those things is very expensive.
85	20:53.4 - 21:16.4	Malayalam speaking V: He says "The cost of labour to transport a boat full of bricks might be $\frac{3}{4}$ the of the cost of the bricks. All materials are brought like that. In the past we could have brought the materials ourselves but now we are old and longer could do it."
86	21:16.4 - 21:39.6	V: money will be sent for one for the wages, it is really expensive for real construction.
87	21:31.6 - 21:49.2	Malayalam speaking V: He says "The government granted us 3 lakhs for the construction but it cost around 7lakhs to complete it."
88	21:49.0 - 22:08.6	V: so the government funded 3 lakhs for them to construct the house. Y: government funded? V: government funded 3 lakhs but actual cost was 6 lakhs. real cost is about 7 lakhs. Y: because of transportation? V: transportation all those things. Y: who built this house?
89	22:08.4 - 22:26.6	Malayalam speaking V: he did. Y: They renovated the house, right? when? because there was an old house here.
90	22:26.6 - 22:52.8	Malayalam speaking V: about 7 years ago.

		Malayalam speaking Y: what is he telling? V: this was renovated in 2016. Y: okey, why did they make a change in the house?
91	22:52.8 - 23:05.2	Malayalam speaking V: He says "That house was small and old. " Woman says: It is told be around 30 years old.
92	23:05.2 - 23:12.9	V: old house was 30 years old. very old. and small. they have this...
93	23:12.9 - 23:18.9	Malayalam speaking V: He says "It was a small house. My parents were alive then".
94	23:18.9 - 23:24.1	Y: can I ask, who built this stone? (showing boundary stone)
95	23:23.8 - 23:28.1	Malayalam speaking V: Yeah, government has built.
96	23:28.1 - 24:03.8	Malayalam speaking V: He says "It was also a loss. Its contract was taken by my brother's son. It was a loss for him and so gave it up which was taken up by someone else but even that was a loss. Then no one takes it up." Y: Why was it a loss? V: He says "Because of the labour charges. Materials have to be unloaded on the mainland, cross the river and then carried to the site of construction. So two of the contractors gave it up. " Y: So this is not yet completed? V: He says "Now it is extended till the southern end. It is a loss for the contractors. Thats why the road construction is not done. "
97	24:03.8 - 24:29.5	V: So.. as told before cost... to get things, raw materials is very difficult due to high cost of transportation.
98	24:29.5 - 24:38.9	Malayalam speaking V: He says "Construction of road has not been reached anywhere. Nobody is there to take up the contract. "
99	24:38.9 - 24:51.2	V: Road has not been built because of this. because of the cost. contractor is not getting the job. that is why they are not getting the road.
100	24:51.2 - 24:54.9	Y: ah okey. He did not say anything about the stone wall, right?
101	24:54.9 - 25:20.3	V: two contractors took up the task to build this stone wall. Y: Who were they?
102	25:20.3 - 25:30.2	Malayalam speaking V: He says "Selected by the government. "
103	25:30.2 - 26:02.3	V: government selected them. Y: okey, there were two contractors.

		V: actually, first one left it. other one took up. but it was also lost. they all left it at the halfway. Y: and then? they didn't finish. now it has been completed or not?
104	26:02.2 - 26:06.2	Malayalam speaking Y: Is that completed now? V: He says "Yes, to the end ". V: Yeah, now it has been completed. Y: who completed?
105	26:06.2 - 26:13.9	Malayalam speaking V: He says "It was done by a person from a place called Kuzhupilly. He was the second contractor named Saji."
106	26:13.9 - 26:15.1	V: second one itself completed. even though it was lost, did complete.
107	26:15.1 - 26:20.8	Y: can you ask why did they do this wall?
108	26:20.8 - 26:34.7	Malayalam speaking information Y: Is that because of rising of water? V: Yes, because of it. The woman says: still the water rises because the wall is made by lying stone without cement. Hence water rises here. Malayalam speaking information Random talks but mention that the situation worsens when it rains. V: to block the water.
109	26:34.7 - 26:49.6	Y: that is why?? V: yeah. Y: is there another reason? V: No, if water rises, it will come here...
110	26:49.6 - 27:12.7	Malayalam speaking
111	27:12.7 - 27:35.3	V: he is telling that all those things have not been by recent generations. Y: can you ask do you know anyone who has recently converted their agricultural land to the residential land?
112	27:35.3 - 27:54.3	Malayalam speaking information V: He says "Not much. Such doings are less here. These all were agricultural land but have not converted much."
113	27:54.3 - 28:00.1	V: no. Y: in the past it as happening? V: no...

114	28:00.1 - 28:05.9	Malayalam speaking information V: He says "In the past....it would be like about 30 years back."
115	28:05.9 - 28:11.9	V: 30 years ago, some kind of things, reclamation has been done. Y: how? can you ask? any detail?
116	28:11.9 - 28:27.8	Malayalam speaking information V: He says "Sand was brought in boats from places like Mulavukkad."
117	28:26.2 - 29:02.2	V: they will get sand from place called Mulavukkad. they will bring in the boat and fill it up. Y: can you write name of the place?
118	29:02.2 - 29:12.1	Y: from satellite images, this island is becoming larger. how is it happening? he might know. island is extending to the water.
119	29:12.1 - 29:38.9	Malayalam speaking information V: He says "These were furrow without bunds. When water level decreased the lands were suitable for cultivation.
120	29:38.9 - 29:40.5	V: this is the same thing what happening in Cheriya Kadamakudy. If the water increases, land....
121	29:40.5 - 30:12.2	Malayalam speaking information V: He says "When water level decreases land could be seen and people used to cultivate there. Later they gather those lands by laying boundaries from the water. When fishing methods and techniques were introduced these cultivation lands gradually changed to fishing spots where people do fish and prawn farming. "
122	30:12.2 - 30:31.6	V: when the water decreases, they will cultivate it. and then land gets extended. that is how. when the water level decreases... Y: because of the nature. V: when the water level decreases, they will cultivate something.

123	30:31.6 - 30:53.9	Malayalam speaking information V: He says "Prawns were grabbed by dipping in the water." Y: The question is how the land was formed? V: He says "When the water decreases we could get the land. Like there would be the platform." Y: Oh, then the boundary would be layed, right? V: Yes, the boundary would be layed.
124	30:53.9 - 31:33.1	V: when the water level decreases, they will cultivate that. some kind of boundary will be visible. it will return to land. Y: let me check. water level is decreasing and that is why there are small low xxx. and their land is extending to the water. V: they will get boundary also.
125	31:32.9 - 32:01.6	Malayalam speaking information V: He says "Only these sides seen were lands. All others were cultivation fields, furrows...it has been only 125 years these bunds were formed by people by gathering the lands from the water, lying boundaries and using them for cultivation and farming. Before that these were all furrows with just a marshy platform."
126	32:01.6 - 32:14.9	V: It is over farming fill it up. Y: have you ever had a change in your land boundaries? V: land boundaries?
127	32:14.9 - 32:36.4	Malayalam speaking V: No. Y: is there any change in number of houses when compared to the past?
128	32:36.4 - 32:44.2	Malayalam speaking information He says "Initially there was only 5 families here."
129	32:44.2 - 32:48.2	V: only 5-8 familes were there. Y: When?
130	32:48.2 - 33:00.5	Malayalam speaking information

		He says "I told it about my ancestors' time. In my memory there were 16 families. "
131	33:00.5 - 33:05.0	V: In his memory, when he was in his childhood, only 16 families were there.
132	33:05.0 - 33:30.5	Malayalam speaking information V: He says "Now there are almost 40 families". V: now it is about 40 families, houses. Malayalam speaking information
133	33:30.5 - 33:33.7	What are the good things about living here?
134	33:33.7 - 33:43.0	Malayalam speaking
135	33:43.0 - 34:43.7	Malayalam speaking V: They could get fresh fishes, could be sufficient for the meals. that is a benefit for them. they don't need to go to market and come back. those tasks are not needed. Y: Is he catching the fisher from the river or from the pond?
136	34:43.7 - 34:54.6	Malayalam speaking
137	34:54.6 - 35:46.1	From the river, from the lake. using the nets. Y: this lake. it is his own plot, right? V: yeah. Y: Is this lake surrounded by the bund? we saw in Cheriya Kadamakudy, they were constructing the bund and they were framing the pond with bund. V: with the bund means? stone wall? Y:no. V: with the mud?
138	35:46.1 - 36:21.8	Malayalam speaking
139	36:21.8 - 36:50.4	V: it is not theirs. this is not their farming land. it is somebody else's. he is living in Paravoor. it is not his land. Y: just this land. V: yeah, just this house. Y: okey. what are the disadvantages of living here?
140	36:50.4 - 37:09.7	Malayalam speaking
141	37:09.7 - 37:19.2	V: even don't have a proper road in the island itself. not only the connection here itself. They don't have a proper road.
142	37:19.2 - 37:51.0	Malayalam speaking
143	37:50.9 - 38:46.7	V: He was telling about his grandchild's medical situation. she is not well. she has some heart problem. Malayalam speaking surgery cost is 18 lakh. they are in debit now. are they affording this money by fishing?

		Malayalam speaking V: yeah, fishing itself. Y: is there anyone working in the family? just he?
144	38:46.7 - 38:59.3	Malayalam speaking V: His son is working. he is also fisherman. Y: in this island? Malayalam speaking V: Yeah. here itself.
145	38:59.2 - 39:09.0	Y: can you ask what kind of facilities would you like to have in this island?
146	39:09.0 - 39:27.4	Malayalam speaking
147	39:27.4 - 39:50.1	V: medical emergency... Malayalam speaking V: They need a bridge. it is very necessary for them. Malayalam speaking
148	39:50.1 - 40:03.3	V: they are not getting any contractor. it is problem. it really costs. wages for all those are very expensive.
149	40:03.3 - 40:44.0	Malayalam speaking
150	40:44.0 - 40:47.8	V: she is saying that their relatives are nearby xxxx his.
151	40:47.8 - 40:58.5	Malayalam speaking V: He says "Tells about the cost of consultation in a renowned hospital. It costs Rs. 10000 for once. "
152	40:58.5 - 41:22.0	Malayalam speaking Y: Is this island called Manjanakkadu? V: He says "Yeah, it is. To be specific it is East Manjanakkad". V: this island is called East Manjanakkad. Y: sorry? V: east manjanakkad. Y: i was guessing it was just manjanakkad.
153	41:22.0 - 41:28.9	Malayalam speaking V: He says "This is in the eastern side, so it is called east Manjanakkad. There is also West Manjanakkad. "
154	41:28.9 - 41:48.4	V: it is also Manjanakkad. but this island is called as East Manjanakkad. Y: okey. do they have any old photo about the island?
155	41:48.4 - 42:15.5	Malayalam speaking
156	42:15.5 - 42:28.9	V: no they don't have. no they don't have old photo at all.

157	42:28.9 - 42:40.7	Y: is there anything to add or comment?
158	42:40.7 - 42:56.5	Malayalam speaking
159	42:56.5 - 43:08.2	V: They seem they don't have anything to add.
160	43:08.2 - 43:14.7	Malayalam speaking
161	43:14.7 - 43:36.6	V: they would be happy if any progress happens because of your results. if any bridge happens here, they would be very happy. Y: you know my research is supported by Kochin city corporation. after I will raise all problems. that is why I am asking.
162	43:36.5 - 43:53.1	Malayalam speaking
163	43:53.1 - 43:57.8	bridge is the necessity one.
164	43:57.8 - 44:03.0	Malayalam speaking
165	44:03.0 - 44:12.1	V: for everything they need to go to mainland. Y: How about the children by the way? is there any playground here?
166	44:12.1 - 44:13.7	Malayalam speaking V: They have ground here.
167	44:13.7 - 44:19.2	Y: which one? same place? V: yeah, same place.
168	44:19.2 - 44:45.0	Malayalam speaking V: they are going to Manjanakkad High school and Manjanakkad LP school.
169	44:45.0 - 44:58.8	Y: In the island, are they organising any educational activities for the children? because one lady told us they are making some activities for the children. are they joining?
170	44:58.8 - 45:10.9	Malayalam speaking
171	45:10.9 - 45:16.3	V: who told you? Y: I don't know but we went their home yesterday.

172	45:16.3 - 45:40.3	V: Do you mean tuition? private tuition? Y: no. like teaching the number, colours. V: Like playschool. Y: Yeah, but not formal one. informal one. they are getting together. and...
173	45:40.3 - 46:23.4	Malayalam speaking V: He says "That is all in the mainland. " Malayalam speaking Y: that is all my question. V: Is it finished? Y: yeah. just one thing. can he show his workplace? where is there exactly?
174	46:23.4 - 46:30.1	Malayalam speaking

Interview No. 12

	Timespan	Content
1	0:00.0 - 0:28.8	4th of May in Manjanakkad A: Madaplathuruth Y: It is the house name? A: He is telling the full address. Y: East Manjanakkad.
2	0:28.8 - 0:41.0	Malayalam speaking V: He says "It's our house name. Meaning for that...it doesn't have a meaning...Its named by our ancestors...we don't know it was named like that. "
3	0:41.0 - 0:50.2	A: I asked him what the house name is. he is telling it is just a house name and does now the meaning. it has been written generations before.
4	0:50.2 - 0:55.3	Malayalam speaking V: He says "There is place called Madaplathuruth near Parvur."
5	0:55.3 - 1:07.2	
6	1:07.2 - 1:26.6	Malayalam speaking V: He says "The second house beside the temple is also named the same. It was my ancestral home. " So you are this man's... ??? V: He says "He is my brother in law. His had a love marriage".
7	1:26.6 - 1:57.9	A: That is his cousin. xxxxx is his brother-in-law. their marriage is loving marriage. that is his sister. xxxx's wife's brother. Y: can I ask a question. you know he mentioned a place which is similar to his house name. and do they have any relationship with this place?
8	1:57.0 - 2:07.1	Malayalam speaking V: He says "No, nothing like that. The house was named like that by ancestors, nothing else".
9	2:07.1 - 2:16.1	A: No, there is no relationship. actually this name has been written years and years before. it is grandfather's name. Y: okey. no meaning. A: no meaning.
10	2:16.1 - 2:30.7	Y: How long have you been here? Malayalam speaking A: he was born and grown up here. Y: 67 years old. A: 67 years old.

		Y: okey.
11	2:30.7 - 2:33.9	Y: could you tell me little bit about yourself?
12	2:33.9 - 2:50.8	Malayalam speaking
13	2:50.8 - 3:25.0	A: in older days his father had teashop in that side. he was working in the boat. in the passenger boat. lots of people will be there. here in older days, there were lots of boat services. he was the river. Y: he were conducting this boat service in which place?
14	3:25.0 - 3:32.6	Malayalam speaking A: From Ernakulam to another place.
15	3:32.6 - 3:37.6	Malayalam speaking
16	3:37.6 - 3:52.1	Y: what is he doing now? is he just retired? A: yeah, he is retired. Y: okey. A: After this boat service work, he just worked in security. Y: in the mainland? A: yeah.
17	3:52.1 - 4:05.3	Malayalam speaking
18	4:05.3 - 4:06.2	A: That is another place. Y: okey.
19	4:06.2 - 4:23.1	Malayalam speaking
20	4:23.1 - 4:25.9	A: he is telling that she needs to have rest and take time, right? (His wife is little bit unwell.) Y: yes, yes.
21	4:25.9 - 4:31.5	Malayalam speaking
22	4:31.5 - 4:42.1	A: he is telling that she does not know everything. she has been married and brought here. Y: how many people are living here? just 2 people? A: yes. 2 people.
23	4:42.9 - 4:50.8	Y: Can you describe your typical day in the island?
24	4:50.8 - 5:59.7	Malayalam speaking A: he is telling that now they are not doing anything. she is not well. he looks after the house because she is not well. so he is in the kitchen in morning. in afternoon he walks little bit at that side. you know he has a cousin over that side, that is the other side. and you know, there is covid now so he is only at home itself. and you know if they buy anything, they have to go to other land, mainland. Y: how often do they go to the mainland?

25	5:59.7 - 6:38.6	Malayalam speaking A: One time. maximum one time. Y: in a day. A: yes. Malayalam speaking A: he is not going daily. just some days, he goes once. in a week he goes twice. Y: For shopping? A: yeah.
26	6:38.6 - 6:56.9	Malayalam speaking A: He can just walk in older days, right? Y: what about goats? (There are many goats in the garden.) Malayalam speaking A: it belongs to other house.
27	6:56.8 - 7:06.3	Y: how is your relationship with other in the island?
28	7:06.3 - 7:35.6	Malayalam speaking V: He said "People here are of mainly two castes but that doesn't matter in our bonding."
29	7:35.6 - 8:12.7	A: he is telling that there are different kind of castes. they are kind of group people; they are only 5 members. Y: in the island A: Yeah, like subdivision. Y: subdivision, yeah. A: and he is telling that there is just only difficulty with crossing to the main-land with the boat. there is no Fight between each family. everyone is living equally. like that. Y: okay. who are other people?
30	8:12.7 - 8:53.5	Malayalam speaking
31	8:53.5 - 9:20.8	A: he is telling that two people who stays in the main house, two people, and at the end, there is a cousin. Y: This subdivision of this religious. how does it affect to their everyday lives? how different is it ?
32	9:20.8 - 9:38.7	Malayalam speaking V: He said "Caste differences are not a matter at all. Everyone participates in the programmes conducted here. For instance we together organise the annual temple festival. All of us turn up for the marriages here".
33	9:38.7 - 10:09.6	A: it is just cast different, not the cast. subdivision. that is not a problem he is telling. if the function is happening in the temple, everyone join together. there is no separation. if function is marriage, everyone will call each other. Y: can you write name of this subdivision? A: yeah Y: and...

34	10:09.6 - 10:16.1	Malayalam speaking
35	10:16.1 - 10:19.6	Y: what type of activities would you do together?
36	10:19.6 - 10:47.4	Malayalam speaking V: He said "People here belong to either Scheduled caste(sc) or other Backward Classes(OBC)."
37	10:47.4 - 11:01.1	Y: what type of activities would you do together?
38	11:01.1 - 11:41.7	Malayalam speaking V: He said "Due COVID 19 many activities are suspended. Else, programmes of Kudumbasree are conducted, and the annual temple festival is celebrated. Celebration in connection with the renovation is coming up on 2 June. For all these everyone comes together."
39	11:41.7 - 11:48.0	A: the main function happening in this island is temple's festivals. And in the June...
40	11:48.0 - 11:52.1	Malayalam speaking V: He said "3 June "
41	11:52.1 - 12:21.5	Y: What are they doing exactly? A: on June 3rd, every year they will renovate worship. like that.... Y: what kind of festivals or special days are celebrated on the island?
42	12:21.5 - 12:35.2	Malayalam speaking
43	12:35.2 - 12:39.9	A: There is no such big function.
44	12:39.9 - 12:47.4	Malayalam speaking
45	12:47.4 - 12:58.1	A: on these days, children all used to dance on the Onam time. now it is covid. no one is doing that.
46	12:58.1 - 13:07.8	Y: is there any specific place that people can meet in the island?
47	13:07.8 - 13:14.2	Malayalam speaking A: Nothing is there like that. just temple.
48	13:14.2 - 13:19.6	Malayalam speaking
49	13:19.6 - 13:26.6	A: long years before children used to play football. in the ground like
50	13:26.6 - 13:33.9	Malayalam speaking
51	13:33.8 - 13:38.2	A: After covid, nothing has been done.
52	13:38.2 - 14:00.1	Malayalam speaking A: he is asking whether is low or high. strong? (Asking about tea)

		Y: it is ok. little bit sugary just.
53	14:00.1 - 14:04.3	Y: what are good things about living here
54	14:04.3 - 14:23.5	Malayalam speaking.
55	14:23.5 - 14:29.4	V: He said "There's no much intrusions here. Nobody comes here for donations, begging and all. It's almost comfortable here. Only a matter is if the water level rises."
56	14:29.4 - 14:33.4	Malayalam speaking (repeatition)
57	14:33.4 - 14:56.8	A: in the other side, someone will be asking for little bit money. they will not be coming for some function everyone will coming to each house and collecting money for their function. noone is coming to this island. no stranger is coming to this island.
58	14:56.8 - 15:12.8	A: and the main problem is that when high tide comes, water increases. it is the main thing. Y: can you ask the difficulties of the island. he mentioned little bit. is there anything different?
59	15:12.8 - 15:23.8	Malayalam speaking
60	15:23.8 - 15:30.3	A: He says teenagers are drinking.
61	15:30.3 - 15:34.0	Malayalam speaking
62	15:34.0 - 15:54.5	Y: what kind of facilities would you like to have in this island?
63	15:54.5 - 16:08.6	Malayalam speaking
64	16:08.5 - 16:12.4	A: Main thing is bridge and road.
65	16:12.4 - 16:19.0	Y: did they do anything for that? did they apply to anywhere?
66	16:19.0 - 16:36.7	Malayalam speaking V: He said "It had already been done before. In connection with it soil was tested but no further progress was seen. We anticipate it whenever a new government is elected."
67	16:36.7 - 18:01.8	Y: can you ask. for example, we were waiting in the shelter. islanders did this shelter. and they were collecting money, sharing... A: That is fine.
68	18:01.4 - 18:25.3	A: he was telling that they had been given everything for the sanction. and government has come each government told yeah road will come. Y: but it is not coming. Can you ask when they decide to do something in the island.

		A: you asked about the shelter. Y: yeah. can you ask?
69	18:25.3 - 18:41.5	Malayalam speaking V: He said "We collected money for its expenditure. Some in the factory also contributed."
70	18:41.5 - 18:50.3	Malayalam speaking
71	18:50.3 - 18:52.9	Malayalam speaking V: He said "It's a small scale factory for prawn exporting".
72	18:52.9 - 19:06.4	A: small company is there, right? near to that.. Y: this factory. A: they helped to build that shelter. Y: how are they deciding to do something? are they meeting, discussing?
73	19:06.4 - 19:34.7	Malayalam speaking V: He said "Hmm... We discussed it and took opinions from all. Initially, it was made with bamboo sticks. Later a person who knows wielding here agreed to make advancements to it. 5 more joined him for assistance and the expenditures were met by collecting money."
74	19:34.7 - 19:50.7	A: he is telling that everyone went to each house and told we will do something and will be great for everyone. and they all support each other, everyone join together, share the money.
75	19:50.7 - 19:55.5	Malayalam speaking
76	19:55.5 - 20:03.8	A: Sometimes they come to sit but other site people will be sitting there and they will not be able to sit there.
77	20:03.8 - 20:08.9	Y: I am wondering is there anyone to start this process?
78	20:08.9 - 20:19.5	Malayalam speaking V: He said "It was a unanimous decision."
79	20:19.5 - 20:21.2	A: everyone decides together.
80	20:21.2 - 20:32.9	Malayalam speaking V: He said "Because during the rainy season we need some shelter. Initially it was made small and further maintenance and advancement was made till now. "
81	20:32.9 - 20:50.1	Y: when?
82	20:50.1 - 20:56.6	Malayalam speaking V: He said "Now it has been 5-6 years in this form. "
83	20:56.6 - 21:03.3	Malayalam speaking
84	21:03.3 - 21:07.6	Malayalam speaking V: He said "Initially it was roofed with sheets. It would be blown off by wind. "

85	21:07.6 - 21:12.4	Malayalam speaking
86	21:12.4 - 21:18.4	Y: How do you prove your drinking water?
87	21:18.4 - 21:22.7	Malayalam speaking V: He said "We have a pipe connection for drinking water in every house".
88	21:22.7 - 21:30.2	A: they have the pipe connection they will get through itself. every house has pipe connetion. Y: How was it before?
89	21:30.2 - 21:48.0	Malayalam speaking V: He said "Before that it was really tough. We had gone to places like Pizhala, kadamakkudy to fetch water, even to Vaduthala."
90	21:48.0 - 21:59.4	A: 20 years before, there was a very big water issue. people used to go with their own boats to another island.
91	21:59.4 - 22:08.4	Malayalam speaking V: He said "Pizhala, Kadamakudy, Kothad, Moolampilly... We used to go to these places in boats at night to get water."
92	22:08.4 - 22:16.6	A: they used to go with their own boat at night and they used to get the water from there.
93	22:16.1 - 22:26.4	A: now there is no such of issue. because Y: I am asking in the past. 20 years ago, 40 years ago how was it? Tis history of water issue?
94	22:26.4 - 23:05.1	Malayalam speaking A: they had to go same as years before. at nighttime they were going to other land to collect water itself. at that time, everyone had boats. Y: can you ask you know boat service is from 6 am to 9 pm. and what would you do to reach to mainland in case of emergency?
95	23:05.1 - 23:16.4	Malayalam speaking
96	23:16.4 - 23:32.4	A: he is telling that the boat will be here itself. If there is emergency, they will take boat and go. Y: this boatman? are they calling him?
97	23:32.4 - 23:43.9	Malayalam speaking
98	23:43.6 - 23:47.5	A: if there is very big emergency, they will just take the boat.
99	23:47.5 - 24:05.8	Malayalam speaking
100	24:05.8 - 24:28.1	A: Few days before, they came to hospital at 1 am. he called his brother's son. he came and brought this island. Y: Did they have their own boat? A: no same boat. They can travel with this boat.

101	24:28.1 - 24:42.1	Malayalam speaking
102	24:42.1 - 25:07.3	A: in older days, boat was in that side. because other guy was taking the boat. it is very difficult for them. each time they had to call him. where was the boat before? other side. Y: ah okey. before this guy. I understand.
103	25:07.3 - 25:30.4	Malayalam speaking Y: do you know anything about history of the island?
104	25:30.4 - 25:42.6	Malayalam speaking
105	25:42.6 - 25:49.2	Y: did their grandparents tell any story?
106	25:49.2 - 25:57.3	Malayalam speaking
107	25:57.3 - 26:18.0	Y: when did your early relatives come to this island?
108	26:18.0 - 26:26.8	Malayalam speaking A: If there is any function, they will come.
109	26:26.8 - 26:31.4	Y: no I am asking the first time. when did they come here?
110	26:31.4 - 26:38.8	Malayalam speaking
111	26:38.8 - 26:40.8	A: he does not know. Y: which generation is he?
112	26:40.8 - 26:45.0	Malayalam speaking
113	26:45.0 - 27:19.2	A: he does not know. Malayalam speaking A: he does not know which generation he is. Malayalam speaking A: that photo is wife's mother and father. Y: does he remember anything from his childhood. how was the life in the island?
114	27:19.2 - 28:33.2	Malayalam speaking
115	28:33.2 - 29:39.7	A: Nothing. Y: what is your plot name by the way? A: he is telling just the house name. Y: who built this house?
116	29:39.7 - 29:43.0	Malayalam speaking

117	29:43.0 - 29:45.8	A: himself. Y: when?
118	29:45.8 - 29:49.0	Malayalam speaking
119	29:49.0 - 29:58.1	A: 15 years before. Y: do you know anyone who has recently converted their agricultural land to the residential land?
120	29:58.1 - 30:14.0	Malayalam speaking V: He said "We are not supposed to fill up lands now. " Y: In the old days...? V: He said "In the old days...it was not done on this island"
121	30:14.0 - 30:21.5	A: He is telling no. nothing has done here. it is difficult. T: how was it before?
122	30:21.5 - 30:27.7	Malayalam speaking V: He said "Before that...cultivation was there...6 months for paddy cultivation and 6 months for fish farming."
123	30:27.7 - 30:46.4	Y: has there been any difference in your plot in your land?
124	30:46.4 - 31:02.4	Malayalam speaking V: He said "No. The way was on the other side, through the western side. Now we have got the way like this. Much easier and more direct."
125	31:02.4 - 31:16.3	A: just.. in older days they had to go to other side. he just return to that side..
126	31:15.8 - 31:26.8	Malayalam speaking V: He said "In my memory there were only 15-16 houses initially. Now it's almost 40."
127	31:20.4 - 31:38.9	A: in older days there were just 16 houses. now there are more than 40 houses in this island. Y: 40? Malayalam speaking A: 40. Y: when it was 16?
128	31:38.9 - 31:47.4	Malayalam speaking V: He said "That might have been 20 years ago. As the family grows people shift to new. "
129	31:47.4 - 31:59.3	A: 20 years before. Y: can you ask from satellite images island is becoming larger and larger. why is it happening?

130	31:55.4 - 31:59.7	Malayalam speaking
131	31:59.7 - 32:07.3	A: he was telling that if someone get married, they will build a new house and that is why this number is increased. Y: can you ask satellite image issue?
132	32:07.3 - 32:22.4	Malayalam speaking
133	32:22.4 - 32:28.5	Malayalam speaking V: He said "No, I don't think so." A: he does not think so.
134	32:28.5 - 32:50.6	Malayalam speaking V: He said "There are no double storeyed houses here. If we have looked from such buildings we might get to see and know such changes." A: he is telling that everyone has just one floor. there are no two floors. Malayalam speaking A: he is telling that if the height is increased, you will feel that.
135	32:50.6 - 33:06.4	Y: did you make any change in your house when it was first built? Malayalam speaking (she is asking)
136	33:06.4 - 33:15.6	Malayalam speaking V: He said "Initially it was a shed. In the northern side of this house. You could see its foundation there."
137	33:15.6 - 33:30.0	A: when we came, we saw a space over there, right? At that time, they were living in a shed. xxx was there. Y: in this plot? concrete one? A: yes. Y: there was a house. A: yeah. just sheet house.
138	33:30.0 - 33:33.2	Malayalam speaking V: He said "This plot is of 5 cents."
139	33:33.2 - 33:40.4	Y: okey.
140	33:40.4 - 33:57.4	Malayalam speaking V: He said "Those sheets used to be blown off (he mentions some kind of sheet on the roof) while it breezes heavily".
141	33:57.7 - 34:12.5	A: he is telling that in older days they had just only sheet. when the wind came , that was flying. it happened three times. after that he decided a built a new house.
142	34:12.5 - 34:19.6	Malayalam speaking
143	34:19.6 - 34:32.7	A: XXXXXXXXXXXXXXXXXXXX. Y: how did they get the material for that?

144	34:32.7 - 34:53.5	Malayalam speaking V: He said "That...we need to bring it in boats. Need to bring the unloaded materials on the other shore in boats. It costs a heavy labour charge. The labour charge itself may equal the cost of building this house."
145	34:53.5 - 35:12.8	A: He is telling that to build this house, just it is same money to transport materials. Y: he paid a lot. can you ask is there any old photo of island?
146	35:12.8 - 35:37.1	Malayalam speaking Y: just that one? A: yeah Malayalam speaking A: he has no photo like that.
147	35:37.1 - 35:38.8	Y: is there anything to add?
148	35:38.8 - 35:43.3	Malayalam speaking
149	35:43.3 - 35:47.3	A: They are telling that the main thing is that bridge. they need.
150	35:47.3 - 36:18.3	Malayalam speaking A: if there is an emergency, they could not go to directly to the mainland. if there is a bridge, they can go directly. if any emergency situation happens, it would be easy. can I ask him oldest people in the island?
151	36:18.3 - 36:49.9	Malayalam speaking V: He said "There is a woman named xxxx on the southern side of the island. There is also another woman... <i>I forgot</i> her name.1
152	36:49.9 - 36:52.6	A: there are two woman he is telling. Y: where are they?
153	36:52.6 - 36:58.4	Malayalam speaking V: He said "There were 2 families there. One shifted to the mainland for rent because of the hardships."
154	36:58.4 - 37:04.5	A: one is in we walked through bund. they are living at that side.
155	37:04.5 - 37:14.4	Malayalam speaking
156	37:14.4 - 37:31.5	A: actually he is telling that two people are living at that side. one family left this place and stayed in another island by renting a house. Y: can you ask name of the people A: older one Y: we can go there tomorrow.
157	37:31.5 - 37:50.5	Malayalam speaking V: He said "Also there was a schoolteacher. He is almost 90 years old now. He also shifted to a place called Elamkunnappuzha to a newly built house. He is affected with age related problems."

158	37:50.5 - 38:22.6	A: Here there was a schoolteacher. Y: here? A: Yeah. man, he has been staying in other land. he is little older than them. he is not here much. we don't get answer. he has little bit difficulty to talk. Y: is there any person? A: two people, two ladies.
159	38:22.6 - 38:52.1	Malayalam speaking V: He said "I dont remember her name...used to be called xxx...something like that."

Interview No. 13

	Timespan	Content
1	0:00.0 - 0:08.4	Y: What is your name? V: His name is xxx. 72 years old. Y: Okay. How long have you been here?
2	0:08.4 - 0:21.3	Malayalam speaking
3	0:21.3 - 0:42.4	V: Okay. He is living here from his forefathers. He is 5th generation. Y: What is the house name?
4	0:42.4 - 0:45.1	Malayalam speaking
5	0:45.1 - 0:51.3	V: Marangattuthara. Y: What is the meaning of that?
6	0:51.3 - 1:09.8	Malayalam speaking V: He said "It's just the house name."
7	1:09.8 - 1:32.7	V: He is xxxx's (another islander) brother. Y: really? V: No, they are not siblings, they are cousins. That is why they have common house names. Y: Okay, is there any meaning? V: no, they don't know.
8	1:32.7 - 1:47.3	Malayalam speaking V: They don't know. Y: Can he describe his typical day on the island? V: his??? Y: His typical day on the island? V: okey.
9	1:47.3 - 2:01.5	Malayalam speaking V: He said "Im not working now. I used to go to collect sand from the river but don't do it anymore."
10	2:01.5 - 2:14.8	Y: taking sand from the river? V: he used to. Y: Okay. Why was he doing this job?
11	2:14.7 - 2:29.2	Malayalam speaking V: He said "People needed sand to level up their land". Y: From where did you collect the sand? V: He said "From Mulavukaadu. "

12	2:29.2 - 2:51.4	V: He used to take sand from Mulavukkad to fill the lands by using the boat. Y: where are they getting this soil? V: from Mulavukkad. that is a place. Y: Can you write please? Is it close?
13	2:51.4 - 3:03.5	Malayalam speaking V: Other side of the river. Y: Moola Philly? V: Mulavukkad. Y: Okay. different places.
14	3:03.5 - 3:15.0	Y: And he was filling the land. Why was he doing this job? What is the reason for the filling?
15	3:15.0 - 3:33.6	Malayalam speaking V: He said "People used to ask for it to level up their land. "
16	3:33.6 - 4:10.7	V: Since the people asked for sand, he used to do it. It is not a permanent job. When somebody asked, he brought it. Y: Then did it become a permanent job? V: not a permanent job. It is casual. He used to do this. Y: Why are people asking for sand? V: people's lands are marshy. Y: Can you ask which place are they filling with this soil?
17	4:10.7 - 5:01.5	Malayalam speaking V: He is saying that they reclaimed the land. Malayalam speaking V: He said "These all are filled up lands. Soil was eroded during the flood and thus the land sinked. It was completely flooded and we shifted to the campus in the mainland. During the second one we remained here itself. Water raised till the knee. " V: they had been in the temple (referring flood times).
18	5:01.5 - 5:12.3	Malayalam speaking
19	5:12.3 - 5:18.7	V: Second time, They didn't move. They were here itself. Y: When was the second time?
20	5:18.7 - 5:33.5	Malayalam speaking
21	5:33.5 - 6:46.2	V: In 2018. Y: when was the first time, then? I just found out about 2018. V: It was in 2018. it flooded two times. Y: In the same year. V: Yeah, same year. Y: can you ask people here, are they extending their land to the sea with this soil?

22	6:46.2 - 7:12.0	Malayalam speaking V: He said "No, because it's a bit difficult for us. Sand, physical labor , all such things are difficult right now."
23	7:12.0 - 7:29.9	Y: I know I have been asked to situation in the past.
24	7:29.9 - 7:51.7	Malayalam speaking V: Lady (jumped into conservation) said "When I was brought here married, there was land, still we filled up some area as told by the landlord. When he sold this land to us he told us that some land was submerged in the water and so estimating that too the ownership was transferred in our name, which we filled up and reclaimed."
25	7:51.7 - 8:39.2	Y: part of the land was under the water? V: part of the land was flooded with the water. He said that you can reclaim it and they did it. They were filled with sand and reclaimed from the river. Y: because the landlord said. when it happened? When did they take over the land?
26	8:39.2 - 8:48.3	Malayalam speaking Nearly 20 years now. V: 20 years ago.
27	8:48.3 - 9:25.1	Malayalam speaking The landlord was a person named xxxxx from Nayarambalam. He is no more.
28	9:25.0 - 9:36.1	Malayalam speaking V: He said "Our ancestral home was here. We bought this property."
29	9:36.1 - 10:12.9	Y: Which one? V: this one, This is ancestor's house (they are showing an old house behind the house where the man currently lives) V: So he bought that land. Y: they were just living the next to this house, Malayalam speaking V: He bought it 20 years ago.. this land in which this house was built. Y: Okay. It is an important question. How are they filling the land? Can he describe the process?
30	10:12.9 - 10:19.5	Y: he's getting the land and after that how is the process? How many days does it take?
31	10:19.5 - 10:41.4	Malayalam speaking V: He said "When we bought it the land was in very good condition with fine sand. The quality was lost during the flood as the soil eroded and was sunk in the water. "
32	10:41.4 - 11:20.6	Malayalam speaking

33	11:20.6 - 11:42.0	
34	11:42.0 - 12:01.5	Malayalam speaking V: He said "That's people go to collect the land in boats for a day and then bring it here and use it as required like you saw the person doing it there."
35	12:01.5 - 12:23.0	V: One day to get sand from Mulavukkad. One day to bring it here. and fill it up. That is the process.
36	12:23.0 - 12:28.0	Malayalam speaking
37	12:28.0 - 12:41.8	Y: when we looked at it from satellite images, this island is becoming larger and larger. How come?
38	12:41.8 - 12:54.6	Malayalam speaking (Varuna is asking)
39	12:54.6 - 13:30.1	Malayalam speaking V: He said "The land and the river are in close proximity...there were not so many houses here. As each started to shift after marriage the number of houses increased. Now there are nearly 52 families. " Y: Not asking about the increasing number of families but the land. V: Lady said "I don't know that. I've been here almost 40-45 years now.
40	13:30.1 - 14:11.6	
41	14:11.6 - 14:42.8	
42	14:42.8 - 15:11.7	Malayalam speaking Some have filled up. V: Lady said "Lands generally stone walls as a boundary from the river. Sometimes as these stone walls collapse into the river, we could fill up there slightly. "
43	15:11.7 - 15:45.7	V: when it gets destroyed, it will be scattered so... scattered into the water. then they fill it up there. then they get the boundary. Y: new boundary. V: yeah. new boundary. that much land has been reclaimed. Y: When was this stone wall?
44	15:45.7 - 15:56.2	Malayalam speaking V: He said "25 year ago."
45	15:56.1 - 15:56.9	Y: Who did?
46	15:56.9 - 16:03.4	Malayalam speaking

47	16:03.4 - 16:09.0	V: V: He said "Panchayat" Y: Why did they do this stone wall
48	16:09.0 - 16:23.4	Malayalam speaking V: He said "We applied for it to restrain the water from entering the land as the land is of almost the same water level."
49	16:23.4 - 16:51.4	Malayalam speaking
50	16:51.3 - 17:25.9	Malayalam speaking V: He said "We have land under our ownership till that side(telling about the land immersed in water.)" Y: In this water!? V: He said "Yes. It has been told like that."
51	17:25.9 - 18:59.1	Malayalam speaking
52	18:59.1 - 19:10.1	Malayalam speaking V: He said "We pay tax for that at the village office." V: I don't get it. how can they get land from the under water
53	19:07.4 - 19:54.7	Malayalam speaking V: And they are saying that they are paying the tax for that too. Y: they are paying tax. V: Tax for that too.
54	19:54.7 - 20:42.0	Malayalam speaking
55	20:42.0 - 22:39.1	V: They don't know about this official thing. Y: But you know.... Malayalam speaking V: Landlord was someone else who lived in a different place. the original land-lord is no more. This family is paying tax for it. Tax is paid by owners. not by these people. Y: Who is paying this tax? I am confused actually. V: their land only that much. so they are paying only for this land. Y: I know. Yesterday we went to another place. did they mention this place or another place? where is there? V: Did they mention it? I did not get you. Y: They said there is land under the water. They are paying tax for that. land-lord. But which land? V: Land which we came here.you have seen that sands. that land. Y: for this place. okay. V: that land ownership is someone else. (here I saw the same man the day before carrying sand to another land. I was confused because I thought it was their land too.)
56	22:39.1 - 23:08.7	Y: I understand now. Which one is the main house by the way in this plot? V: main house?

		Y: there are some main houses. and after that, each family has their own house. V: this one was their ancestor's home. then they separated to these ones. It is also his cousin's house.
57	23:08.7 - 23:11.4	Y: who is living in this house?
58	23:11.4 - 23:16.4	Malayalam speaking V: Nobody is living.
59	23:16.4 - 23:19.3	Y: When did he build this house? old one?
60	23:19.3 - 23:43.4	Malayalam speaking
61	23:43.4 - 24:21.8	V: He was born there. (referring ancestor house) Y: He does not know the exact date. V: yes. Y: This one. When did he build? V: about 20 years ago. Y: And this one? V: Same. Y: Who built this house? He or..? V: Yes, he did.
62	24:21.8 - 24:24.8	Y: How did he get the materials? V: Materials? raw materials?
63	24:24.8 - 24:35.9	Malayalam speaking V: He said "Bricks are brought from Chennor and stones from Kakkanad".
64	24:35.9 - 25:15.7	V: from Kakkanad. should I write? (She is writing.)
65	25:15.7 - 25:21.6	Y: How long did it take to build? Malayalam speaking (she is asking)
66	25:21.6 - 25:32.7	Malayalam speaking
67	25:32.6 - 25:45.2	V: Okay. It was done easily. short spent time. about 3 months.
68	25:45.2 - 25:49.6	Y: What are the bad things about living here? or maybe we can start with good things. What are the good things about living here?
69	25:49.6 - 26:09.1	Malayalam speaking
70	26:09.1 - 26:16.3	V: He is talking about the breeze and climate.
71	26:16.3 - 26:21.4	Malayalam speaking

72	26:21.4 - 26:43.2	V: cold breeze. It is cooling here. That is one benefit. Y: Just climate. V: Yeah, climate. cool breeze.. consider because of the hot. he sits here and enjoys it. Y: bad things? disadvantages?
73	26:43.2 - 27:09.2	Malayalam speaking V: He is talking about..... Malayalam speaking
74	27:09.2 - 27:18.9	Malayalam speaking
75	27:18.9 - 27:41.7	Malayalam speaking Y: Travelling? V: He said "It's fine as the boat is available. Besides, there are no interventions from outside."
76	27:41.7 - 28:34.7	Malayalam speaking V: He says that no one enters here. no stranger comes here, right? often no. if it is in the mainland, you have many people coming and going. all strangers. but somehow privacy is secure here. Malayalam speaking V: no robbery. All of those things are not a problem here. He does not have a problem with boat travel. but she said in a medical emergency it is very difficult for them. Y: Actually I will ask this question. What are they doing in case of an emergency? health issue?
77	28:34.7 - 29:02.1	(Children are playing)
78	29:02.1 - 29:15.3	Malayalam speaking
79	29:15.3 - 29:44.6	V: no more service after 9 pm. What they do is that they will use this boat by themselves to get to the mainland. Y: Before what we were doing? V: Before means? Y: Now, there is a boatman and his wage is paid by the government. before, did they have their own boat to get to the mainland?
80	29:44.6 - 30:18.2	Malayalam speaking
81	30:18.2 - 31:01.3	V: before.... Malayalam speaking V: These boat services are paid by panchayat. Before that they had all small boats. They used to cross the river, cross the lake. Actually he was doing this boat service for 40 years. Now he is not doing this job. Y: Is there any playground or place for children here?
82	31:01.3 - 31:13.0	Malayalam speaking V: there is a bareland they used. that is it. Y: there is no specific place.

		V: No specific. .
83	31:13.0 - 31:20.0	Malayalam speaking
84	31:20.0 - 31:38.2	Malayalam speaking V: children used to play football in this bare land. Y: Is there any place where people can meet with other people on the island?
85	31:38.2 - 31:55.4	Malayalam speaking V: That place only. Malayalam speaking Y: Is there any special day or event celebrated on the island during the year?
86	31:55.4 - 32:50.0	Malayalam speaking V: Temple festivals. temple festivals are common for all of them. Y: Which month? V: Generally it happens in january. but due to covid situation, it has been suspended for 2 years. This year it was held in april. Y: how is your relationship with other people on the island?
87	32:50.0 - 33:08.1	Malayalam speaking V: They cooperate with everyone. Y: okay. in what kind of situation do they join together?
88	33:08.1 - 33:13.8	Malayalam speaking
89	33:13.8 - 33:25.3	V: any marriage function, kind of... they used to come together. Y: what are they doing in this function?
90	33:25.3 - 33:40.3	Malayalam speaking
91	33:40.3 - 34:32.5	V: They used to.. like... He said "marriage function has 2 different days. marriage day and day before it. When it was the day before, we used to come together, cook, sing songs, and dance. but due to covid situation, now it is all a little bit down." Y: not like before. V: not like before. Y: What does he think about that? Malayalam speaking
92	34:32.5 - 34:49.0	Y: Okey. Y: Do you know the history of the island?
93	34:49.0 - 35:25.5	Malayalam speaking V: He said "I don't know. Have been here since my ancestors. Their successors of many generations are here. years ago there were cultivations and all were done on a large scale. In course of time as those old people died nothing is done now. Only fish farming is done now. "

94	35:25.5 - 35:44.5	V: He is saying that he does not know that much about the history of the island. He was born here, he is living here. from his forefathers, he has been here. does not know that much about the history of the island. Y: Okey. is there any story your grandparents told him?
95	35:44.5 - 35:54.8	Malayalam speaking
96	35:54.8 - 35:57.1	Malayalam speaking
97	35:57.1 - 37:08.4	Malayalam speaking Y: How many families of the same name are here? V: He said "About 15 families."
98	37:08.4 - 37:22.7	
99	37:22.7 - 37:31.6	Malayalam speaking (Pointing the houses of the same house name)
100	37:31.6 - 37:38.9	V: About 15 families have the name of Marangattuthara.
101	37:38.9 - 38:20.6	Malayalam speaking V: He said "Even more than 15 families might be there." V: They have this house name 'Marangattuthara'. Y: why did their early relatives come to this island?
102	38:20.6 - 38:36.0	Malayalam speaking V: He said "The landlord had paddy fields here. In order to take care of it, our forefathers were brought here."
103	38:35.6 - 38:56.1	
104	38:36.0 - 39:06.3	V: Landlord had ponds here for agriculture and cultivation. For the cultivation process, this slave came. He was appointed here. Y: At that time, what kind of cultivation was there?
105	38:56.1 - 39:09.8	Malayalam speaking V: He said "Rice. (to be specific <i>pokkali</i>)" V: Pokkali
106	39:09.8 - 39:12.5	Y: And after that, did this slave buy this land from the landlord?
107	39:12.5 - 39:20.3	Malayalam speaking V: He said "Yeah the landlord granted the land".
108	39:20.3 - 39:24.7	V: Landlord gave him the land Y: why? as a gift?

109	39:24.7 - 39:45.7	Malayalam speaking V: He said "As a gift as he had been here for a prolonged time when he got married and settled here. As a gift of choice." Y: How much land was given? V: He said "Have no idea about it."
110	39:45.7 - 40:01.8	V: when he got married, some piece of land was granted to him. that is it. Y: When it was exactly?
111	40:01.8 - 40:11.6	Malayalam speaking
112	40:11.6 - 41:03.1	V: About 8 generations before. V: I think about the slavery system. slavery was abolished here in the 1840s. I don't know the number exactly. Y: We need to check. Any stories about the island? Did their grandparents tell any story about the island? They mentioned there was rice cultivation before. this kind of story.
113	41:03.1 - 41:10.6	Y: Or was the island was a good place to cultivate?
114	41:10.6 - 41:28.4	Malayalam speaking V: He said "Yeah, used to have a good yield." Y: Then what happened to be stopped? V: He said "Later on people were not available for harvesting. Even if grains are sown, people are much needed for harvesting. So gradually cultivation decreased."
115	41:28.4 - 42:20.8	V: labors are no longer available. Actually, pokkali cultivation is very difficult. it is a very long process and does need a lot of labor. Since labor was not available, it was demolished. Y: Do they do fishing? V: Now they are doing fishing and they have prawn cultivation. Y: do they have their own pond here?
116	42:20.8 - 43:10.2	Malayalam speaking V: No they don't. Malayalam speaking V: They don't do such things. people from other lands come here and do. they don't. They don't have funds for it. they don't have a capital for it.
117	43:10.7 - 43:56.8	Malayalam speaking
118	43:56.8 - 44:22.5	Malayalam speaking

119	44:22.5 - 44:44.6	Y: Okey. Malayalam speaking
120	44:44.6 - 45:06.2	V: usually they do fishing by using nets. Y: is she doing? Malayalam speaking V: She used to do it but not now. Y: okey. Malayalam speaking Y: I noticed a Chinese net here. Who is the owner of this?
121	45:06.1 - 45:50.6	Malayalam speaking V: it is his. Y: Okay. this smaller one. V: aaa. this one. Y: did you see? Malayalam speaking V: They will do it at night time. Y: When are they collecting? In the early morning? Malayalam speaking V: They used a lamb to attract the fishes. very often. Y: there is no specific time. V: no specific time.
122	45:50.5 - 45:58.4	Y: he is just collecting just for himself? or is he selling?
123	45:58.4 - 46:05.5	Malayalam speaking V: they used to sell them.
124	46:05.5 - 46:22.7	Malayalam speaking V: Did you see this company? Y: yes. this one. V: They sell it to them.
125	46:22.7 - 46:44.4	Malayalam speaking V: they sell it there. Malayalam speaking
126	46:44.4 - 46:46.1	Y: how many people are living in this house?
127	46:46.1 - 46:57.9	Malayalam speaking
128	46:57.9 - 47:35.1	V: He, his wife, then his son, daughter in law, two grandchildren. Y: In this house? (asking woman's house) V: she lives with her son, daughter in law, and grandchildren. Y: How many people in total? V: 4 people in her house. two.. two... 6 people in his house. Y: Okay. What kind of facilities would you like to have on this island?

129	47:35.1 - 47:48.8	Malayalam speaking
130	47:48.8 - 47:56.8	Malayalam speaking i V: He said "It would be nice if the height of the land is increased and sufficient measures are executed to restrict the erosion if flooded."
131	47:56.8 - 48:08.4	V: they want this land to be raised. It will be pretty easy. Y: they need land to be raised. V: increase of height of the land. Y: but how come?
132	48:08.4 - 48:23.6	Malayalam speaking V: He said "we need the shores to be firmly walled and fill up the land."
133	48:23.6 - 48:49.9	V: They want to raise that boundary wall and need to fill this land to make it high. that is why they will prevent the water. Y: I understand now. can you ask her same question? Does she know anyone who has recently converted their agricultural land to the residential land? she might know.
134	48:49.9 - 49:01.9	Malayalam speaking V: He said "Nobody has done that. Houses are built on the land they had themselves".
135	49:01.9 - 49:14.3	Y: is there anyone who has extended their land to the water?
136	49:14.3 - 49:31.7	Malayalam speaking V: He said "No. lands here were already there in the past and the houses are built on them only."
137	49:31.7 - 51:10.4	V: all houses in the land which already existed. they have not done anything to fill it up. okay.
138	51:10.4 - 52:38.8	Y: that is all. is there anything to add or comment?
139	52:38.8 - 52:58.6	Malayalam speaking V: He said "Our place is being perished. The island is no more like it was before, when I came here. It is gradually being perished. In the past it was very fine sand all over here. Now sinking in the water again and again it turned to be marshy. Water enters here regularly now during high tide."
140	52:58.6 - 53:08.6	V: They are saying about condition of the land. before it was in good condition. had a very fine land.
141	53:08.6 - 53:11.5	Malayalam speaking repetition
142	53:11.5 - 54:20.3	V: Now as the water comes to this land, it is getting marshy. It is very difficult for them. Y: thank you for today.

Interview no. 14

	Timespan	Content
1	0:00.0 - 1:14.5	Y: What is your name?
2	1:14.5 - 1:21.6	Malayalam speaking A: xxxxx
3	1:21.6 - 1:33.4	Malayalam speaking A: 50 years old.
4	1:31.8 - 1:38.2	Malayalam speaking. V: He said "House name is Maragattuthara. Almost everyone here is of the same house name."
5	1:38.2 - 1:52.2	A: everyone's Marangattuthara. Y: does he know the meaning of the house name?
6	1:52.2 - 2:29.2	Malayalam speaking. V: He said "No idea. (Also enquires to his mother, she too doesn't know)"
7	2:29.2 - 2:29.9	Y: Okay, leave it if you don't know.
8	2:29.9 - 2:36.0	Y: Were you born here? Malayalam speaking A: Yes. Y: in this house?
9	2:36.0 - 2:40.6	Malayalam speaking. V: He said "No, not in this house. It was a thatched one.
10	2:40.6 - 2:43.3	A: no, in an old house. Y: Where was there?
11	2:43.3 - 2:46.1	Malayalam speaking. V: He said "Here itself, in front of this. "
12	2:46.1 - 2:59.1	A: in the front side. Y: here? A: Yeah. Can you show me a picture of a yellow house? Y: but it was at the other side,
13	2:59.1 - 3:29.0	silence.
14	3:29.0 - 4:08.3	Malayalam speaking
15	4:08.3 - 4:24.1	A: This one, yeah. Can you zoom in a little bit?

16	4:24.1 - 4:40.1	Malayalam speaking
17	4:40.1 - 4:48.7	A: This is the next house. Y: yeah but there was another house here, right? A: He has the photo.
18	4:48.7 - 6:18.2	silence A: He said “ My daughters are studying in college and my wife is working.” Malayalam speaking Y: What are you doing?
19	6:18.2 - 6:24.0	Malayalam speaking
20	6:24.0 - 6:26.9	A: he is a fisherman. Y: Could you tell me a little bit about yourself?
21	6:26.9 - 6:31.4	Malayalam speaking
22	6:31.4 - 6:35.8	Y: What is he doing during the day?
23	6:35.8 - 6:57.8	Malayalam speaking. V: He said “I have a small fish farm. It's called <i>kettu</i> in Malayalam”. Where's it? V: He said “It's not on this side but on the other. The shutter has to be raised and closed to let in and out the water alternatively at regular intervals. Then I have to catch fish and prawns from there.”
24	6:57.8 - 7:06.4	A: He has a pond. paddy field and half month fishing. He is having that on the other side.
25	7:06.4 - 7:13.9	Malayalam speaking
26	7:13.9 - 7:24.5	A: He is telling us that If we go back with the boat we can see. you can ask him. Y: I forgot to ask. When did they construct this house?
27	7:24.5 - 7:32.0	Malayalam speaking
28	7:32.0 - 7:36.7	A: 2002.
29	7:36.7 - 7:44.4	Malayalam speaking Y: How old was the previous house? V: He said “It was nearly 30 years old. It was here itself and was dilapidated to build this one.”
30	7:44.4 - 8:05.2	A: The older house was there 20-30 years ago. it was here itself. After that they built a new one. Y: 20-30 years ago.

		A: 20-30 years ago..... At that time itself, they had a house like a smaller one. Now this house was built in 2002.
31	8:05.2 - 9:01.7	Y: before that there was a main house in front of the house... A: yeah. they have lived. This house has been there for 20-30 years. This house was here for many years. Y: 1970s.. 1980s... A: yeah. their grandfather and grandmother were living there. First they had a house, that house was there for 20-30 years. After that they built a new house. Y: Then they destroyed the other house and built the new one. When did they construct another old one?
32	9:01.7 - 9:07.2	Malayalam speaking
33	9:07.2 - 9:29.3	A: That was an old house.. like.... when he was three years old, that house had been built. That is why he said he is 50, right? we can calculate with that. Y: in the 1970s... because he is 50 years old. and do they have any plot names?
34	9:29.3 - 9:35.2	A: yeah that is Marangattuthara. Y: It is the house name. Is there any plot name?
35	9:35.1 - 9:46.4	Malayalam speaking A: it is manjanakkad itself. Y: Okay. plot number?
36	9:46.4 - 9:57.5	Malayalam speaking A: Actually the house name is similar to the plot name.
37	9:57.5 - 10:09.4	Malayalam speaking Y: What is he doing during the day?
38	10:09.4 - 10:19.5	Malayalam speaking V: He said "I spent the whole time at the farm. "
39	10:19.5 - 10:20.6	A: He is always there by himself.
40	10:20.6 - 10:24.0	Malayalam speaking V: He said "Sometimes I would be there the whole night and return in the morning."
41	10:23.0 - 10:26.8	A: he might be there at night time or morning time.
42	10:26.8 - 10:29.8	Malayalam speaking V: He said "More work is at night."
43	10:29.8 - 10:37.2	A: At night time he has more work in the fishing field. Y: Do they make paddy fields?
44	10:37.2 - 10:40.5	Malayalam speaking (she is asking)
45	10:39.8 - 10:49.9	Malayalam speaking V: He said "No, we haven't. Even the fish farm took for lease in this year only".
46	10:49.9 - 11:04.4	A: No. he is not having. Y: just fishing.

		A: Yeah, they took this year. Y: I am asking because there is a certain time for fishing. and... A: no, he is saying that he does not have that thing. He took one year for a lease.
47	11:04.4 - 11:20.4	A: This year he just started it. they don't have it. This year he took a lease for one year.
48	11:20.4 - 11:22.7	Malayalam speaking
49	11:22.7 - 11:25.4	A: he just rent it.
50	11:25.4 - 11:28.0	Malayalam speaking
51	11:28.0 - 11:31.7	A: Actually it is like every year anyone can take this tender.
52	11:31.7 - 11:33.9	Malayalam speaking Y: Before that, what was he doing?
53	11:33.9 - 11:45.5	Malayalam speaking V: He said "Masonry."
54	11:45.5 - 11:58.3	A: You know the big stones in the side of this... like a wall.he had that work. Y: He is doing this job.
55	11:58.2 - 12:04.0	Y: But as far as i have know, the panchayat or government was doing this stone.
56	12:04.0 - 12:08.4	Malayalam speaking V: He said "Yeah, assigned by the panchayat, we did it. I was a labourer."
57	12:08.4 - 12:15.2	A: He was a labourer.and got the labour charge. Y: why did they do this job?
58	12:15.5 - 12:31.0	Malayalam speaking V: He said "For the soil not to be eroded because of the high currents." A: He is telling that..
59	12:31.0 - 12:57.5	A: He is saying that to protect the soil and this land not to fall into the water. you know waves will be there. If waves hit this land, soil will be going to the water. to prevent that they built this. Y: To the river? A: To prevent, they built this. Y: Can you ask when was the first time to make this wall?
60	12:57.5 - 13:07.1	Malayalam speaking V: He said "It was already here even before I was born. Can you tell an approximate of how many years ago it was built?
61	13:07.1 - 13:39.2	A: 55 years before it was done. Y: He was not born at that time. Silence.

		Y: can you ask does he know anyone who has converted their agricultural land to the residential land?
62	13:39.2 - 13:48.4	Malayalam speaking
63	13:48.4 - 14:01.0	Malayalam speaking
64	14:01.1 - 14:24.3	Malayalam speaking Y: any of the area here was filled up? V: He said "This is a filled up land. " Y: This one? V: He said "Yes, but we own the documents. " Y: So what kind of land was this before? Was it a Paddy field? V: He said "Yeah, almost. " Y: How many years ago? V: He said "Much before I was born."
65	14:24.3 - 14:56.4	Y: . He said it was a paddy field and then they converted to residential land. when it happened?
66	14:56.4 - 15:14.2	Malayalam speaking V: He said "I don't know. " Just an approximate is needed. V: He said "It was before I was born. During my grandfather's time.
67	15:14.2 - 15:16.5	A: He is telling me it has been done a long year before.
68	15:16.5 - 15:25.4	Malayalam speaking V: He said "It was before my birth. Ah...father has died...my uncle's house is nearby."
69	15:25.3 - 15:28.9	Malayalam speaking
70	15:28.9 - 15:57.9	Y: How did you know this information?
71	15:57.9 - 16:13.0	Malayalam speaking V: He said "It is something which is known by our ancestors. our father told us. He is no more. The plot actually owned by our grandfather".

72	16:13.0 - 16:18.2	Y: how did they do?
73	16:18.2 - 16:48.9	Malayalam speaking V: He said "Filled up with soil. This was actually a paddy field." From where to where? V: He said "From this to that side.(gestured)" So all these were filled up? V: He said "Not that included.)Ours was.(also mentions another). Almost 5-8 cents of land."
74	16:48.9 - 17:23.5	No voice.
75	17:23.5 - 17:34.6	Malayalam speaking V: He said "Mentioning the land by pointing. That's my grandfather's. There's my uncle's (father's brother) and this is mine¹
76	17:34.6 - 17:46.1	
77	17:46.1 - 17:53.7	Malayalam speaking V: He said "Grandfather had 3 sons."
78	17:53.6 - 17:55.4	A: He was having three sons. and it has been converted.
79	17:55.4 - 18:06.4	Malayalam speaking
80	18:06.4 - 18:11.0	Malayalam speaking V: He said "Grandfather partitioned the land and divided it among his children".
81	18:11.0 - 18:34.9	A: yeah. Y: their pond was in front of the river, right?
82	18:34.9 - 18:42.5	Malayalam speaking Y: Was your previous house here? V: He said "Our previous house...was on this side. It was a tile roofed one."
83	18:42.5 - 18:55.6	A: Just a small one. Y: Maybe it was on the bund like the other one. A: It was a very small house. a very nice climate, right? Y: Does he know how they convert it?
84	18:55.6 - 19:05.4	Malayalam speaking V: He said "By filling up with soil. "
85	19:05.4 - 19:20.5	Y: Where do they get the soil?

86	19:20.5 - 19:22.8	Malayalam speaking Ancy is asking
87	19:22.8 - 19:28.1	Malayalam speaking V: He said "From the place called Mulavukkadu. "
88	19:28.1 - 19:41.9	A: it is near manjanakad. thorough that in between they took sand from under the water. Y: exactly where?
89	19:41.9 - 19:44.3	Y: Is there any specific place? Malayalam speaking She is asking
90	19:44.3 - 19:51.0	Malayalam speaking V: He said "From Mulavukadu" A: Moolamphilly and Mulavukkad.
91	19:51.0 - 20:01.0	Y: why is this place exactly this place? is there a low tide?
92	20:01.0 - 20:03.8	Malayalam speaking V: He said "It is where soil gets sedimented. The water flowing from dams deposit the soil there".
93	20:03.8 - 20:07.4	Malayalam speaking
94	20:07.4 - 20:42.1	Y: why did his grandparents choose this land to fill?
95	20:42.1 - 21:16.6	Silence .
96	21:16.6 - 21:32.7	Malayalam speaking Somebody comes and the conversation is interrupted.
97	21:32.7 - 21:39.2	A: That is my father's brother. Y: We met yesterday.
98	21:39.2 - 22:13.8	Malayalam speaking V: He said "The reason for filling this land up...We were living on the eastern side. When the land there was sold we needed another one to live and we came over here." She's asking why this land itself was chosen ? V: He said "Because here it had more land area. Only a little area was needed to be filled up. Else we wouldn't have enough space to build a house. "

99	22:13.8 - 22:49.4	A: because when the father got shares, these people did not have a place to make a house. So at that time, his grandfather made this area for them and filled it with lots of sand. A: When it has been shared, each family has got the current thing. Y: Can he show us the original island? Where is the original land? Do they know? .
100	22:49.4 - 23:23.0	Y: where is the island starting and finishing before the filling? Before they filled around? A: You know they said did you see that band? A: from there until this was his property. Y: His grandfather's. A: His grandfather's. It was just a paddy field.
101	23:23.0 - 23:34.9	Y: where is the original island before filling? there was a natural reclaimed land. A: yes, yes. understand.
102	23:34.9 - 23:55.4	Malayalam speaking Y: You said that this land was filled up. So to what extent was land before? V: He said "Land was here like this. There was no <i>Chera</i> (footpath)..." Y: No, till where was the land? V: He said "Till there you see that house". Y: Till that roof tiled house? V: He said "Yes."
103	23:55.4 - 24:01.5	"A: you know until that house just a little bit forwarded. that much proper land was there.
104	24:01.5 - 24:08.6	Malayalam speaking V: He said "It was a paddy field."
105	24:08.6 - 24:48.8	explaining the borders of the reclaimed land.
106	24:48.8 - 25:03.0	Malayalam speaking
107	25:03.0 - 25:29.5	Y: How many families do they live on the island? There are some small families but house names are the same. A: It is like, they got the share. Each family is increasing and increasing. Y: Can you ask how many extended families live here?
108	25:29.5 - 25:49.4	Malayalam speaking Explains the question to them.

109	25:49.4 - 26:09.5	Malayalam speaking All those houses include.... Just need the number of houses. (count the houses) almost 10 houses. Almost 10-14 houses.
110	26:09.5 - 26:20.2	A: 10 houses. Y: for just this family A: Yeah. 10-14 houses. Y: is there any familiy here from apart from them?
111	26:20.2 - 26:23.8	Y: maybe in the other side?
112	26:23.8 - 26:36.4	Malayalam speaking Y: So who else lives here apart from your family? V: He said "Here... apart from us 2 more families are here. "
113	26:36.4 - 26:38.2	Malayalam speaking.
114	26:38.2 - 26:50.5	A: There are different families. And to that end, there are lots of lots of different families. Y: yeah.
115	26:50.5 - 27:04.6	A: Maybe that is because of their great grandfathers.
116	27:04.6 - 27:13.3	Malayalam speaking
117	27:13.3 - 27:16.4	A: They are 5th or 4th generation.
118	27:16.4 - 27:19.1	Malayalam speaking
119	27:19.1 - 27:27.5	A: He might be the 6th one. Laughing Y: Does he know why his early relatives came to this island?
120	27:27.5 - 27:29.2	Y: I asked him (Minnen) but he does not know.
121	27:29.7 - 27:57.2	Malayalam speaking Y: Do you know who came here, for what, anything like that? V: He said "Because back then agriculture was the major occupation. Now there is no agriculture like that." Y: So for agriculture, the land was...

		V: He said "I shall say...nearly 250 years ago, my great great grandfather...this is what my father told me.. "
122	27:57.2 - 28:00.8	
123	28:00.8 - 28:42.7	Malayalam speaking V: He said "In those times our landlords settled here with their family for agriculture. They also had cattles. So children were bought for cattle rearing. Child labour existed in those time...time of destitution then...a boy was brought from Trissur by them. It was the time before my fathers forefathers. The boy was 8 years and was assigned the household works and cattle rearing. As he grew up he got married from here itself and settled here. His successors became the inhabitants of this island.
124	28:42.7 - 29:40.5	
125	29:40.5 - 29:44.0	
126	29:44.0 - 29:48.1	Malayalam speaking Y: So you are actually from Thrissur. V: He said "Our forefathers were. "
127	29:48.1 - 29:52.3	A: Their great grandparents were brought from that place.
128	29:51.7 - 29:55.3	Malayalam speaking V: He said "Back then there were only 3 or 4 houses".
129	29:55.3 - 30:00.4	Y: When?
130	30:00.4 - 30:08.8	A: 250 years before. Y: There were just... A: There were just 3-4 houses.
131	30:08.8 - 30:11.4	Y: how did they get this information?
132	30:11.4 - 30:21.3	Malayalam speaking V: He said "Orally. Forefathers used to tell it. " A: His great grandparents told him. and this story has been converted to each one.
133	30:21.3 - 30:32.1	Y: can you ask when his grandfather die? he made many filling Y: I am just calculating. his grandfather but his father, right?
134	30:32.1 - 30:52.5	Malayalam speaking V: He said "Oh, I don't remember that."

		Y: Your grandfather means your fathers father. When did your father die? V: He said “father....8 Jan 1996”
135	30:52.5 - 31:13.6	
136	31:13.6 - 31:22.0	Malayalam speaking Clarifying the date.
137	31:22.0 - 31:29.6	A: Hah okey..1986. Y: What is this date?
138	31:29.6 - 31:40.6	Malayalam speaking V: He said “It is 1996 not 1986. “
139	31:40.6 - 31:43.1	A: He said just 86. that is it.
140	31:43.1 - 32:03.2	Malayalam speaking Y: So your father filled up this land. Isn't it? V: He said “No, it was done by us...we needed a place to dwell.” Y: But wasn't he alive at that time? V: He said “Yes, yes.”
141	32:03.2 - 32:08.4	
142	32:08.4 - 32:27.2	Malayalam speaking Y: So at that time was filling up done in the rest of the island? V: He said “No, not on others, rest was retained as land itself.” Y: Not asking about your family alone. As filling up was possible at those times, some other family might have done it... This side or any other? V: He said “No, nothing else”.
143	32:27.2 - 32:31.8	
144	32:31.8 - 32:41.1	Malayalam speaking V: He said “Back then we were living on the eastern side. We sold the land there and came here. How many years ago was that? V: He said “That was in 1974.
145	32:41.1 - 32:47.5	A: In 1974 during that time, they were living on the other side. Y: I know this place. Xxxx’s father in law was living there before.

146	32:47.5 - 32:52.3	Malayalam speaking V: He said "All were paddy fields. Now we cannot go there."
147	32:52.3 - 32:55.0	..
148	32:55.0 - 32:58.0	Malayalam speaking Y: Why can't we go there now? V: He said "Now it's completely grassed there. Snakes might be there".
149	32:58.0 - 33:22.4	A: Now it is like a mini forest. the snake will be there. they were living at that side. When the family increased, they started to move to another place. when they came to this side, his father just converted the land. After that there was a small house nearby.
150	33:22.4 - 33:26.4	Malayalam speaking
151	33:26.4 - 33:57.0	A: They had a small house and after that, they had that kind of house with that roof. they had the same plot. After that in 2002 they converted this house. Y: You said there was a small house. A: now He said there was one more house here. like that roof. Y: When?
152	33:57.0 - 34:38.0	Malayalam speaking A: Until 2000, they had a small house. and afterhat in 2002, they built a concrete house. Y: it was the main house, right? A: yeah. Y: He told us he had a house at that time. I showed the picture. A: yeah. yellow one. Y: It was the main house as well? He renovated it.
153	34:38.0 - 35:43.6	Malayalam speaking A: That house you came to. Malayalam speaking A: That is the main house. when they got the share, Y: But house here. A: That was the main house. After the marriage, his father and mother moved there. and they built this one. complicated, right? Y: there was a house in place of this current house. when it was constructed? Malayalam speaking (she is asking)
154	35:43.6 - 35:57.4	Malayalam speaking
155	35:57.4 - 37:07.6	A: That house was there 30-40 years before (destroying).. 1974. Y: and this one is 2002. Malayalam speaking A: 1974 was the first house. in between they built another house.

156	37:07.6 - 37:27.9	Malayalam speaking Y: Does he know anything about the history of the island?
157	37:27.9 - 38:49.4	Malayalam speaking
158	38:49.4 - 38:56.3	Y: Can you ask how life was before? A: He might know better. Y: Actually I asked him before.
159	38:56.3 - 39:00.4	Malayalam speaking
160	39:00.4 - 39:32.1	A: He studied until 8th grade in Njarakkal government school.. I A: Yeah. you know. After that, they started paddy fields.
161	39:32.1 - 39:39.2	Y: Who built this house? his father or his grandfather?
162	39:39.2 - 39:45.4	Malayalam speaking
163	39:45.4 - 40:03.8	A: His father. They got a loan. Y: really? SD fund. A: yes. Y: I know this fund hehe.
164	40:03.8 - 40:06.8	Y: how did they get the material for this house?
165	40:06.2 - 40:23.6	Malayalam speaking
166	40:23.6 - 40:40.8	A: In Kadamakudy, we used a boat with a scooter, right? two boats join to- gether. That is how these things were transported to this place. Y: It was expensive, right?
167	40:40.8 - 40:52.1	Malayalam speaking. Y: Was it expensive? V: He said "Yeah it costs a lot. As you go further the expense increases. (I think he mentions the expense hike (transportation of materials) with respect to distance away from the bank of the river.)
168	40:52.1 - 41:13.2	A: It is expensive, he says that it is easy for them. you just take these materials from there and keep it here. If you are going through this site, it is expensive. it will be getting more and more. Y: It is the closest area to the mainland. maybe that is why.
169	41:13.2 - 41:24.1	Y: Can you ask as I have known, they collected money and constructed this shel- ter. How was the process?

170	41:24.1 - 41:31.0	Malayalam speaking she is asking
171	41:31.0 - 41:35.4	Malayalam speaking
172	41:35.4 - 41:42.4	A: They are saying that it has been renovated. Before that, it was done with this leave. (showing coconut leave).
173	41:42.4 - 41:50.1	Malayalam speaking V: He said "With the coconut leaves. (coconut leaves are weaved for thatched roofs)"
174	41:50.1 - 41:54.9	A: You know this leaf has been tied together. I will show you the photos.
175	41:54.9 - 41:56.7	Malayalam speaking Y: coconut leaves, right? A: I will send you a photo. maybe in google, there were.
176	41:59.8 - 42:04.8	Malayalam speaking
177	42:04.8 - 42:18.4	A: 40 years ago, there was no bus. they had only bus transportation at that time they constructed this shelter. Y: When?
178	42:18.4 - 42:30.1	A: 40 years ago. you know this thing. coconut leaves have been tied. And it is like a shelter. Y: like a cover A: yes.
179	42:30.1 - 42:33.2	Y: when did they construct the new one?
180	42:33.2 - 42:38.9	Malayalam speaking A: 5-6 years.
181	42:38.9 - 42:46.6	Malayalam speaking
182	42:46.6 - 42:58.1	A: They are saying that when rain starts, it is very difficult for them to wait. they made it for them to sit. but other islanders are sitting there.
183	42:58.1 - 43:05.7	Malayalam speaking
184	43:05.7 - 43:12.9	Laughing A: They have complained to the police station. other people are sitting there, right? two times the police came here. Y: Did the police do something? Laughing Y: Because they are just sitting.
185	43:17.1 - 43:22.3	Malayalam speaking

186	43:24.2 - 43:43.7	A: It has been built for them, right? everyone... if it rains, they will wait there. Those guys are sitting there by themselves. you know this is built for them to wait. Y: yes, of course but they are so cute. laughing Y: Can you ask if they get money to build this shelter?
187	43:43.7 - 43:52.0	Malayalam speaking
188	43:52.0 - 44:05.1	A: Everyone on this island joined together and shared the money and they built it. Y: are there any people to start this process? A: Like the main leader?
189	44:05.1 - 44:09.5	Malayalam speaking
190	44:09.4 - 44:22.4	A: He was saying that in 2018 when the flood came, the islanders went to the other side. Malayalam speaking A: everyone Y: where did they stay?
191	44:22.4 - 44:26.2	Malayalam speaking
192	44:26.1 - 44:42.0	A: In school. Malayalam speaking A: In Manjanakkad there is a school.
193	44:42.0 - 44:45.2	Malayalam speaking
194	44:45.2 - 44:48.3	A: There is also water. people shifted to the other side.
195	44:46.8 - 44:52.1	Malayalam speaking
196	44:52.1 - 44:58.1	A: For 5 days they left this island. Y: Can you ask if there is any main leader?
197	44:58.1 - 45:30.3	Malayalam speaking
198	45:30.3 - 45:56.1	A: Young people are joining together. just everyone. Maybe on this or other side, they discussed the issue and everyone told each family. Everyone shares. Y: and they are deciding. Is there any place where we can meet and discuss this kind of issue?
199	45:56.1 - 46:07.7	Malayalam speaking
200	46:07.7 - 46:19.5	A: in any house. they don't have any specific area. They can join in any house. Is there any place people can just meet to have a good time together or to do some activities?

201	46:19.5 - 46:33.3	Malayalam speaking
202	46:33.3 - 46:57.5	A: You know at that side, there is a ground there. Y: There are some buffaloes. A: not this side. the other side. in front of their house. there is a ground. you know that Lina's house. Y: Okay I know. A: that ground children used to play football. Y: yeah, there are some buffalos there. A: ah yes.. Y: here, right? same place they are always referring.
203	46:57.5 - 47:32.5	Y: Is there any frequency to meet and discuss? How can i say. is there any frequency of meetings? Are they meeting regularly for problems?
204	47:32.5 - 47:42.9	Malayalam speaking
205	47:42.9 - 48:15.5	A: At that time everyone will join together and discuss the issue. Y: when the issue came, right? A: They said they will sit somewhere else. maybe in any house. There is no specific area. where they join together and meet. sometimes they will sit in any someones' place? Y: They will call each other? A: Yeah, they will call everyone. Y: Okay.
206	48:15.5 - 48:23.7	Y: Can you ask him what are the good things about living here?
207	48:23.7 - 48:34.8	Malayalam speaking
208	48:34.8 - 48:46.0	A: He is telling me that everyone is leaving this island to work outside. If they want to go outside, they have to cross this river.
209	48:45.9 - 48:53.2	Malayalam speaking
210	48:53.2 - 49:05.0	A: He is saying that if he needs a light, he has to go to that side. Y: Is there any good thing?
211	49:05.0 - 49:09.8	Malayalam speaking
212	49:09.8 - 49:13.8	there is no other trouble, right?
213	49:11.8 - 49:14.3	Malayalam speaking
214	49:14.3 - 49:22.3	A: He is telling us that "we are at this side, we can open the door and sleep. Everyone knows each other"
215	49:22.3 - 49:28.0	Malayalam speaking V: He said "Islanders' occupation is generally fishing...much correlated with the river and lake."

216	49:28.0 - 49:54.4	
217	49:54.4 - 49:59.2	Malayalam speaking

Interview No. 15

	Timespan	Content
1	0:00.0 - 0:42.2	Y: 6th of May in Manjanakkad. okey. Whats her name? V:XXXXX Y:how old is she? Malayalam speaking V:eighty two years old.
2	0:42.2 - 2:09.2	Y:she got married and then she came here, what was she doing before? Malayalam speaking V:she was a farmer as usual she used to do fishing , all kinds of jobs here. Malayalam speaking
3	2:09.2 - 2:41.7	Y:what was the house name? Malayalam speaking V:Thundiparambil Y:we didn't hear this one before, Malayalam speaking Y: what is the meaning of the house name?
4	2:41.7 - 2:57.8	Malayalam speaking (She is asking meaning of the house name) V: they don't know the meaning
5	2:57.8 - 3:01.8	Malayalam speaking V: She said "It was named by the ancestors."
6	3:01.8 - 3:10.3	V: the house name was set by other family ancestors so they don't know the meaning
7	3:10.3 - 3:29.1	Y: how was her relationship with others, other people in the island.
8	3:29.1 - 3:45.4	Malayalam speaking She said "Islanders are all are in close bond like a single family"
9	3:45.4 - 4:01.7	V: Everyone born here nearby and there are small families here so they have a very good bond with them. Y: Are they helping or supporting each other in case of emergency?
10	4:01.7 - 4:13.7	Malayalam speaking
11	4:13.7 - 5:15.4	V: There is no problem. Malayalam speaking Y: They are her sons right?

		V: yes. Y: Is there any place they can meet other people in the island?
12	5:15.4 - 6:24.0	Malayalam speaking V: She said "There is no place like that....there are halls on the mainland. For any functions and celebrations like weddings we do arrangements in front of houses itself. Do you mean gatherings for onam celebration and all?" Y: Yeah anything when all the islanders turn up? V: She said "In such situations, for instance we have a temple festival annually. For its committee meeting and all we gather at random houses on the island." Y: So where is the festival held? V: She said "Procession to <i>kavu</i> (the sacred grove) on the eastern side of the island is the main event held during the festival."
13	6:24.0 - 6:39.9	Malayalam speaking
14	6:39.9 - 7:09.8	V: we can able to walk Y: Is there any place? What did he say? V: half km far away. Y: I'm just wondering what exactly he says.
15	7:09.8 - 7:53.3	V: There is a kavu that.... Malayalam speaking V:She said "During the temple festival a procession from the temple to the sacred grove is the major event." Y: Okay, so people walk to the grove from the temple. So what happens in the grove? V:She said "<i>Puja</i> (prayers and offerings) is done there. We prepare <i>payyasam</i> (kheer/south Asian rice pudding) as an offering to the deity and share among us. We all turn up for it. Is there only one sacred grove here? V:She said "Yes, only one.
16	7:53.3 - 9:00.6	V: They're saying that there is kavu. all during the festival of december there'll be a procession from there. like there's flowers and lambs on it, there'll be a procession from the temple. They have a correlation with festivals and kavu. Y: This place in the forest right? V: Yes, half a kilometer. Y: OK, you know we ask them, is there any place they can meet other people ? He mentioned this place right?

		V: yes, Y: Okey. V: She said “ we don’t have such big functions. mostly we have small functions that will be held on own houses. We have some places in front of the houses so we hold all functions there itself. they won't be much crowded. These all spaces will be sufficient.
17	9:00.5 - 9:11.4	Y: Which time they’re going to this place? Malayalam speaking V: She said “It just finished last month. Generally it is held in february but this time it got postponed. “
18	9:11.4 - 9:48.0	V: during the festival of this temple. That has been done in january. January or february. Malayalam speaking Y: at these times only? V: It is based on the Malayalam calendar. days will be changing. Y: Okay. we saw another temple here, there was another temple on the other side and we saw a second on the road?
19	9:48.0 - 10:19.5	Malayalam speaking (asking about temples) V: I don't find a so-called properly structured temple here that is beside the road. Why is that? V: She said “That's because it's been renovated. It is called <i>kalari</i> (sacred space) Rituals are done there but as it has been renovated it is not in full fledged.”
20	10:19.5 - 10:45.8	V: Other one, not the one we saw today. the first temple..... this is called cal-lari. Y: what is that? V: This one we saw now. Y: Is it the name of the temple? V: It is not the name of the temple. generally called callari. Y: Can you write? it is a kind of temple, right? What is that?
21	10:45.8 - 11:17.7	Malayalam speaking V: We cant call <i>kalari</i> a proper temple, can We? V: She said “It's also a temple. It's like a founding one.” A: The main temple was on that side. This is just the foundation. just a small temple. everything will be held in the main one. Y: But what is the function of this small one?
22	11:17.6 - 11:30.3	Malayalam speaking V: She said “<i>Puja</i> is held. This time <i>pongal</i> (a kind of puja where women prepare payyasam for Lordess) was conducted”.
23	11:30.3 - 12:14.0	Malayalam speaking Y: Actually I did not understand.

		A: I will tell you. That is the main temple. every festival and everything is done there. This one is smaller. Just small functions are done here. That is the just distinction. V: They do worship here but not like xxx temple. Y: And why are there 2 temples on the small island? V: This is just... Y: Can you ask?
24	12:14.0 - 13:39.7	Malayalam speaking V: She said "For different deities." A: This is a kind of rituel. This has been done for this thing. not the other one. Y: small one? V: Also, God is different. here you have... V: They've two gods here, in this temple they've goddess shiva, in the other one they've another goddess, not shiva.
25	13:39.7 - 14:50.1	. Y: Do they know when these temples were constructed? A: Smaller one? Y: both of them actually?
26	14:50.0 - 16:27.1	Malayalam speaking V: She said "Years ago". Y: Still do you have a guess on the exact year? V: She said "Almost 100 years ago". Y: Oh that old!? V: She said "The temple on the other side was renovated. This temple is also about to be renovated. " Y: So there are no rituals done now? V: She said "Yes, we do it on the last Sunday of every month" Y: When renovated this temple would it be made big? V: She said "Yes, it will be made the same as the other one." Malayalam speaking Y: Do they know anything about history of the island?
27	16:27.1 - 17:02.0	Malayalam speaking

28	17:02.0 - 18:08.8	Malayalam speaking
29	18:08.8 - 18:52.3	Malayalam speaking
30	18:52.2 - 19:08.6	V: She said that in the temple during the festival....
31	19:08.6 - 19:37.5	Y: What is that? What did you say? Malayalam speaking
32	19:37.5 - 20:02.2	A: They don't know anything. Malayalam speaking V: that has been done in this small temple. Malayalam speaking
33	20:02.2 - 20:27.3	Malayalam speaking Y: okey.I will change the question. When did their early relatives come to this island?
34	20:27.3 - 20:31.1	Malayalam speaking grand V:She said "Our grandfathers all lived here. The houses were thatched ones in those times. Only the floor was there. Everything else were made of mud and leaves. "
35	20:31.1 - 21:28.9	Malayalam speaking V:She said "All were thatched houses."
36	21:28.9 - 22:03.5	Malayalam speaking
37	22:03.4 - 22:37.0	Malayalam speaking. Y: Okay, Did they say anything about their early relatives?
38	22:37.8 - 23:13.3	Malayalam speaking V: They don't know anything. Malayalam speaking
39	23:13.3 - 23:34.0	Malayalam speaking
40	23:34.0 - 23:43.7	Y: Which one is the main house? There are three houses on the same plot.
41	23:43.7 - 24:12.3	V: This is the main house, ancestor house. Y : Okey, when did they build this house? Malayalam speaking V:She said "This is almost 50 years ago I guess." V :About fifty years ago. Before, it was made of mud and coconut leaves. Y: ok, there was a small shelter.

		V: yes. small shelter.
42	24:12.3 - 25:45.0	Y:The other one? Malayalam speaking V: It was her son's. He shifted to that. Y: when? Malayalam speaking V: They shifted to that twelve years ago. Y:And the other one? There is one more too. I don't know where it is, I just noticed. V:This is their ancestor's house, now they have three houses shifted. Y:Okay, there are four houses. V: including this, yes. Y:the other one when they build the third one? Malayalam speaking V:Forty years ago, when they got married, they shifted. That is the elder brother's house.
43	25:45.0 - 26:36.0	Malayalam speaking Y :Do they know anyone who has recently converted their agricultural land to the residential land?
44	26:36.0 - 26:51.2	Malayalam speaking V:She said "No, No nothing like that because it is illegal. "
45	26:51.2 - 27:41.3	Malayalam speaking V:She said "Here the majority is fishing farms which cannot be filled up as it is illegal. Y:Is there anyone filling the water with sand?
46	27:41.3 - 28:32.8	Malayalam speaking V:She said "We dont do it much as the water will take away the soil." Y: Still if it gets marshy will it be filled up? V:She said "Nowadays stone walls are constructed for it and when new houses are constructed the foundation would be layed high. So such houses can be saved from water but the older ones get submerged.
47	28:30.4 - 30:04.9	V: usually what they are doing is that when they construct a new house they fill the land, to make it a bit high. they can make a high level so it will not be flooded. for that just they will fill it up. inside the boundary, they will fill. Y: are they filling the water or are they just making the land a little bit higher in the plot? I did not understand. What did he say exactly?

		V: when they construct a new house, their fondation will be high. in order to make it higher, they will fill it up. Y: I am asking in the boundaries of the residential land or are they doing in the water? V: in the land.
48	30:04.9 - 30:23.2	V: They need to get a foundation for the house. Y: Okey, understand. Can you ask From satellite images, the island becoming larger than larger, year by year how it is happening?
49	30:23.2 - 30:41.5	Malayalam speaking V:She said "Nothing like that."
50	30:41.5 - 30:49.4	V: No. They are not aware of that. they don't know. maybe because they don't recognise it.
51	30:49.4 - 31:01.5	Y: it was a very long time ago. but maybe they don't know but maybe they just heard that some people extended their land to the water.
52	31:01.5 - 31:16.2	Malayalam speaking V:She said "No...no...its all same as before. "
53	31:16.2 - 31:27.9	Y: okey, what are the good things about living in this island?
54	31:27.9 - 32:20.7	Malayalam speaking V:She said "During the time I was married and brought here it was all paddy and fishing farms here. So there were sufficient job opportunities. We didn't need to go anywhere to get rice. Right now as there are fishing farms we do not go out to buy fish for meals. "
55	32:20.7 - 33:23.5	. Y: What are the difficulties?
56	33:23.4 - 33:44.8	Malayalam speaking
57	33:44.8 - 34:18.1	V: they need the facilities. If some guests come, they need to go to the main-land and buy something. That is the difficulty. mostly when people came, they would need to say before. otherwise it would be difficult to buy something. Y: And what kind of facilities would you like to have on this island?
58	34:18.1 - 35:05.7	Malayalam speaking V:She said "We need a bridge and a road but the problem is that nobody takes up the contract due to the heavy labour charge." V: they need a bridge and proper border. Malayalam speaking V: and they need a road. but problem is that noone is taking the contract.
59	35:05.7 - 35:35.7	Malayalam speaking
60	35:35.7 - 35:54.6	Malayalam speaking

61	35:54.6 - 36:20.3	V: They're saying they're safe here, they also don't permit any drugs to enter here, they say they are safe here. Even in nights you can walk here. Y: Are they locking their doors during the night?
62	36:20.3 - 36:49.9	Malayalam speaking
63	36:49.9 - 37:08.6	V: Usually when they close the door they lock it but if the power is off they'll open it. Sometimes they can lay on the floor outside even at night, and sleep over there.
64	37:08.6 - 38:09.5	Malayalam speaking
65	38:09.5 - 38:32.2	Malayalam speaking
66	38:32.2 - 38:51.6	Malayalam speaking
67	38:51.6 - 40:12.7	Malayalam speaking
68	40:12.7 - 42:11.6	Malayalam speaking
69	42:11.6 - 42:48.8	A: He is a fisherman. Y: Do they have their own pond?
70	42:48.8 - 44:18.7	Malayalam speaking V: She said "We don't own any. Fishing ponds(farms) are leased for 6 months. During that time only the people who got the license can fish from it. it is unauthorized for the local people to fish from it at that period. Anybody can fish during the other 6 months. Anybody can take it for lease if they have money. Otherwise when it is not the leased period everybody can fish".
71	44:18.7 - 44:35.2	Malayalam speaking. Y: You don't own any now, do you? V: She said "No, we used to take it up for lease but now it's not affordable. Also, the environmental habitat is not much suitable because of water pollution that prawns die and it would be a loss." V: they don't have. Malayalam speaking
72	44:35.2 - 45:09.0	Malayalam speaking.
73	45:08.9 - 45:30.9	Malayalam speaking. V: They have a net. They don't have chinese net. Malayalam speaking

74	45:30.9 - 46:19.7	V: they use nets, different types of nets. Y: just net. That is ok. Malayalam speaking V: fishes stuck in these nets. Malayalam speaking V: that nets are made of bamboo sticks. Y: Do you have any questions? I asked all my questions. Do you wonder anything?
75	46:19.7 - 46:37.5	Malayalam speaking
76	46:37.5 - 47:22.4	Malayalam speaking V: she says: Stories... we could know any stories only if our parents tell us. They had not told any. V: she says: All were so indulged in farming that no such activities (telling stories) were done. V: she says: Most of the people on the island are relatives and are like a family. For each and everything all turn up and cooperate. It's very secular and fraternal here. No boundary issues at all here. Anyone can walk through others' compounds.
77	47:22.4 - 48:05.2	Malayalam speaking.
78	48:05.2 - 48:42.3	Malayalam speaking Y: How did they get drinking water in the past? Now everyone has pipes, but in the past?
79	48:42.3 - 49:10.4	Malayalam speaking V: She says: We have a pipe at all. We used to fetch water from places like Eloor, Ernakulam etc. in case of any functions like weddings, we used to bring water from places like pizhala, chittoor etc in bigger boats.
80	49:10.4 - 49:45.2	.

Interview No. 16

	Timespan	Content
1	0:00.0 - 0:12.5	Y: Hi. What is your name? A: xxxxxx.
2	0:12.5 - 0:28.4	Malayalam speaking. (She is asking for fullname and house name) P: Pashniparambil. Y: It is the same name, isn't it? He is a relative of xxx? A: Yes, they have the same family name.
3	0:28.3 - 0:56.8	Malayalam speaking. A: He is xxxx's relative. Malayalam speaking
4	0:56.8 - 1:11.9	A: He is just 5th or 6th generation. Y: Okey. and what is his occupation?

5	1:11.9 - 2:03.8	Malayalam speaking T: His father was a farmer and he works in KSDC. Y: What is that? Malayalam speaking P: boat driver. A: He was a boat driver. V: in Kerala State Development Corporation Malayalam speaking A: He was working as a boat driver. Malayalam speaking A: Thirteen years he had been working there. Y: And now he is retired? A:Retired. Malayalam speaking A: He has been retired for 10 years.
6	2:03.8 - 3:00.2	Y: Is he doing anything now? A: Farming Y: What kind of farming? Malayalam speaking A: He has household work. house area and farming. He does fishing. Y: Where is his pond? Does he have own pond? Malayalam speaking A: He is saying that if we move to that side, we will be able to see his pond. Malayalam speaking Y: Hmm.Does he has his own plot to fish? A: That is his own plot. Y: Hmm. A: It has been done by his father. He said his father was a farmer. 6 months after it is fishing. It has been done generations and generations before. it has been given to each one. Y: okey.
7	3:00.2 - 3:20.6	Y: Is he making any paddy? Malayalam speaking A: Yes, Six months they are doing fishing and the other six months they are doing paddy fields. Y: Pokkali? A: yeah. Y:Can you describe your typical day? You know, what are you doing exactly in a day?
8	3:20.6 - 4:16.6	Malayalam speaking V: He said "When I wake up in the morning, I usually do anything regarding vegetable farming at home. If it is the season of fish farming, I would go there and do the chores like accumulation and release of the water. If it is the cultivation season, there would not be much work after sowing. It is 6 months each for the cultivation and fish farming inactual. But usually i t wont take that much. Both would be finished in about 4 months."
9	4:16.6 - 4:38.3	Malayalam speaking V: He said "Fish farming would be winding up in April and the cultivation starts in June depending upon the rain. It takes almost 120 days for the grains to be harvested. "

10	4:38.3 - 5:40.6	Y: what did he say? A: He was telling that the current timing is 6 months fishing in a 6 month paddy field. But now, it is 4 months, you know. They have been fishing for 4 months. 4 months is just needed only for fishing and paddy fields. So he was saying that in fishing time, fish harvesting time, they go everyday to release the water. and if they do paddy fields, they have to go sometimes only. they don't need to go everyday. Y: Yeah she told. A: You know 1- 20 days needed for rice to harvest. V: Has to be. Y: 20 day? A: 1-20 days. Y: But you know, they told us the pokkali field is so difficult issue that is why actually i am really surprised. You know they say; they didnt do anymore because it is so difficult to make but he said there is nothing to do?
11	5:40.6 - 6:29.3	Malayalam speaking V: He said "We can't actually say it is actual <i>pokkali</i>. What we do now is we get grains from <i>Krishibhavan</i>. It's really hard to cultivate real <i>pokkali</i> because of a shortage of grains and labour to harvest and thresh. Another thing is that the plant grows in height and so it gets easily affected by rain and the quality and quantity will be compromised. So cultivation of <i>pokkali</i> is actually less here. Literally none does it.
12	6:28.6 - 7:21.3	A: They are getting seeds from Chrisimpaven. Y: From where? V: Chrisimpaven Y: What is that? A: Chrisimpaven is a legal office with agricultural things. They get things from the government. Earlier it was actually pokkali. He will show you. V: It was the actual pokkali. V: pokkali is not cultivated. it is something else. Y: Another kind of rice. V: Yes, another kind of rice. A: There is a variation. Pokkali is very high and when wind and rain comes you know, this thing will fall down and you know that it will get spoiled. And so to do that... Y: Haha. A: See, they are doing this right now. take a photo. (he is showing rice seeds given by government) A: I will take a photo. Y: No, I can.
13	7:21.3 - 8:25.6	A: Now they are doing that Y: What is the name of this rice? Malayalam speaking T: It is the xxxxx, you know. you can get from the government. they will put in. Y: It is a seed, isn't it? Malayalam speaking. A: See, this is the name. A: This is the name. Brance. Malayalam speaking Y: I don't think so. A: It is marketed by Brance. Y: hih. It is a brand.

		Malayalam speaking
		A: This is just given by them (the government).
14	8:25.6 - 8:30.1	Malayalam speaking V: He said "Something like <i>vytila 65</i> ." Saying name of the rice.
15	8:30.1 - 8:47.8	Y: Okay. What is the height of this rice?
16	8:47.8 - 9:02.9	Malayalam speaking V: He said " First of all there is the shortage of seeds to sow and then lack of labour for <i>pokkali</i> . In <i>case of</i> these seeds supplied by <i>krishi bhavan</i> the plant does not grow much in height but for <i>pokkali</i> it would grow to about 4-5 feet. The other would be almost 2-3 feet."
17	9:02.9 - 9:12.7	Malayalam speaking
18	9:12.7 - 9:22.7	Malayalam speaking
19	9:22.6 - 9:30.4	V: It is much more efficient because of the wind.
20	9:30.3 - 9:35.8	A: And this one is easier for them to harvest. and that one (<i>pokkali</i>) is very difficult. Y: Is he selling?
21	9:35.8 - 10:12.8	Malayalam speaking V: He said "We sell in case of extra yield. What we used to do in earlier times is that we cook the grains, dry them up and pound them to turn them into rice. In those days there was no practice of buying rice from shops. It's not the same now because nobody is there to cultivate and all. Even the mills are not functioning now."
22	10:12.8 - 10:38.2	A: That is his father. when his father was there, they did not buy rice from the outside. They get, they keep few rice. A: They will keep some rice for themselves. And after that they give it to the milk. First they will dry it and They will give it to the milk and they get the rice properly and they use it. And now it has not been done, they buy from outside and they will give to other guys..
23	10:38.2 - 10:49.1	Malayalam speaking V: He said "We had a granary in our previous house but got dilapidated when the house was renovated."
24	10:49.1 - 11:14.2	A: There was the old house. you know in that old house... Y: In this plot? A: Yes, over here. Malayalam speaking A: Here, this house was there. You know, in the old house, the old family house was there. they had granary. V: like a store room.
25	11:14.2 - 11:31.2	A: And last year only they just destroyed that house. A: Yeah Y: Okay. They were using a storage place.
26	11:31.2 - 12:02.3	Malayalam speaking V: He said "(Describes the granary) It has three sections which can contain 60 <i>para</i> (a vessel used for the measurement of rice) each. Grains in one section would be used for sowing in the next period."
27	12:02.3 - 12:14.5	A: It is actually done by three. It is divided into three sections. And one it is like sixty kilogram. It will be one seed like that.

28	12:14.5 - 12:35.3	Malayalam speaking Y: And you know, can you ask if farming or fishing is more efficient? You know, it brings more profit. Which one is more efficient? Malayalam speaking V: He said "Fishing is more profitable as per current conditions because we can find labours for cultivation".
29	12:35.3 - 12:49.2	Y: Is there any capacity for seeds you know? the office is given these seeds to him, right? A: Yes. Y: Is there any limit for each season? How many kilos?
30	12:49.2 - 12:59.7	Malayalam speaking V: He said "50kg per 1 acres land would be provided. "
31	12:59.7 - 13:08.2	A: For one acre of land, they will provide 50 kg of seeds. Y: For each season? Isn't it? A: Yeah. Y: Okay, and...
32	13:08.2 - 13:12.7	Malayalam speaking V: He said "It has only been 2-3 years since we started buying seeds. Before that our own seeds were used".
33	13:12.7 - 13:22.3	Malayalam speaking Y: How much is the yield?
34	13:22.3 - 13:35.6	V: He said "It depends on the environmental conditions. Because of the poor climatic condition we didn't get much last time.
35	13:35.6 - 14:12.2	Malayalam speaking A: Paddyfield actually lost for them. And fishing is more easy for them. Y: Is there anyone who has recently converted their agricultural land to the residential land?
36	14:12.2 - 14:32.5	Malayalam speaking V: He said "Can't really say like that because it's not been done much like that. "
37	14:32.5 - 15:26.1	Y: In the past it was happening? Malayalam speaking V: He said "There were only about 15 houses on this island. So there is abundant land to be settled here itself as the family grows. So there is no requirement of filling up the paddy to build houses."
38	15:26.1 - 16:24.1	Y: Okay, can you ask if you know from satellite images, the island is becoming larger. What could be the reason for that?
39	16:24.1 - 16:51.3	Malayalam speaking V: He said "Nothing happened like that. It appears like that due to the mangroves growing beside the river bank. Else the land has not been enlarged. "
40	16:51.3 - 17:23.5	A: He is telling me it has not been large. Malayalam speaking V: He said "It would have been true in other places but not here. It would have happened if we filled it up and took over it as land. Another point seems that fish

		farming was recently introduced, so viewing those gives an impression of extended land.”
		A: Mangroves are the reason. V: it is natural reclamation. Malayalam speaking Malayalam speaking
41	17:23.5 - 17:47.0	
42	17:47.0 - 17:56.7	Malayalam speaking V: He said “In earlier times, fishing and farming were the means of living for all. “
43	17:56.7 - 18:05.5	A: Everyone was living with fishing and the paddyfield. Now they have to go outside, you know. Y: how did they construct their bunds?
44	18:05.5 - 18:58.3	Malayalam speaking V: He said “Mud was dug out and was made manually. Later, a government scheme was introduced to build stone walls to stop erosion. Initially it was maintained by the inhabitants themselves with mud. It's been 10-20 years since the government started to do such things. Some schemes would be approved when maintenance is needed. Otherwise it would be damaged can get the soil eroded. “
45	18:58.3 - 19:46.1	V: mud is taken from the lake for boundaries to make up. and later the government built stone walls. Y: Why did the government build this wall? A: just to protect them... not the bund, rough thing. It is stone. It has been done by the government to prevent soil not going to water. Y: Did he say? A: yes. It was done by the government ten years ago.
46	19:46.1 - 20:07.0	Malayalam speaking. A 10-20 years ago. Y: He is referring the you know the road or which area A: That area We were asking about the boundary. He was talking about that. Y: And how is your relationship with others on the island?
47	20:07.0 - 20:25.0	Malayalam speaking T: He is saying that there are not many issues over here. And everyone joins together and goes together as usual. There is no difference.
48	20:24.9 - 21:20.6	Y: Do they support each other in case of an emergency? Malayalam speaking A: Earlier it was very difficult because there was a transportation issue, right? so they had to call for a boat, everyone was joining together. Now it is fine. If somebody is unwell, they will take them by car. like that , like that.
49	21:20.6 - 21:53.3	Malayalam speaking V: This house has been done for twenty years, you know. Y: 20 years ago .Okay Malayalam speaking A: That old house was here for several years. Y: What are the good things about living here?
50	21:53.3 - 22:38.5	Malayalam speaking A: No one is coming here from outside to this area. because everybody knows each other. some stranger will be asked, it is safe. Y: And what are the disadvantages of living here?

51	22:38.5 - 23:29.9	Malayalam speaking
52	23:29.9 - 24:14.2	V: If they have their own car or vehicles, it is easy. Otherwise, they have to call families or hire from auto shop. A: He is saying that if someone knows driving, it is easy because they have got the car. This car is his son's, he is at work. at few times only he takes the car. Malayalam speaking
53	24:14.2 - 25:51.1	Y: how was the transportation before the bridge? Malayalam speaking V: they had to get a boat from here to Pizhala. and they had to walk in Pizhala. Malayalam speaking V: It took one hour. Y: really? Malayalam speaking
54	25:51.1 - 26:09.5	V: for everything they had to go to Pizhala. Y: But now ? V: Now they have a road here. Y: Hi hi. Malayalam speaking
55	26:09.5 - 27:02.6	V: See. like... If you just go to Pizhala, you have to go like this. You need to go like this and come to this side. from Pizhala to Chittor. Now it is easy. Y: And you know there is a metal bridge now. The navy did this one and you know there is an old pedestrian bridge, you know next to this bridge. Does he know when they constructed the old one? Malayalam speaking
56	27:02.6 - 27:24.1	A: 30 years before Y: And who did? Who is the founder? Malayalam was speaking with translator A: James... Y: I know this name. And you know before this old bridge was there any bridge you know before the old bridge?
57	27:24.1 - 27:30.7	Malayalam speaking
58	27:30.7 - 27:59.8	V: Wooden one. Malayalam speaking Y: And who built the oldest bridge? A: wooden one? Y: yes.
59	27:59.7 - 28:39.1	Malayalam speaking (explaining oldest bridge.) V: It was 50 years ago. Y: What is he saying?
60	28:39.1 - 28:56.1	A: Before the bridge, there was a boat. Malayalam speaking
61	28:56.1 - 29:09.9	V: in older days, the private boat. Everyone had their own boats. Y: You know we talked about that, the church was providing a boat before that isn't it?
62	29:09.9 - 29:43.2	Malayalam speaking V: He said "Yes, the Church owned a boat which was dedicated for the service of the inhabitants. The church society donated money to buy the boat, the remaining expenditure was met by collecting from the inhabitants. It was like a public service." "

63	29:43.2 - 31:48.3	V: Church boat was like an ambulance. Y: yeah it was. Malayalam speaking Malayalam speaking Y: When did they stop using this boat? V: Now it is also there but no one needs that. Malayalam speaking Y: You know, when was the last time they used the boat? V: He is telling us that if we also want to go, we can take that. Y: This boat. (laughing) V: We were asking... Y: but no driver. V: yeah.... Malayalam speaking T: Do you need to go with that? Y: With this boat? T: Yeah. Y: But is there fuel inside?
64	31:48.2 - 32:14.6	A: Yeah, there is a house, right? we just need to tell him only. and he will take us. there should be fuel there. Y: Really? Which house exactly? Malayalam speaking
65	32:14.5 - 32:43.6	A: You know, do you remember one day we came to the back side from one house? Y: There was a pink house A: Yes yes Y: This one A: Yeah. Malayalam speaking Y: They are responsible for this boat now? Malayalam speaking A: He is responsible for the boat Y: Why? A: Because you know it is near right. Y: That is why? A: Yeah. Y: Who gave this job to this house, I am wondering. Malayalam was speaking with translator A: Everyone in the church gets together and they make a decision.
66	32:43.6 - 33:52.1	Malayalam speaking. A: It was given to everyone, it changed . V: It turns. Malayalam speaking. Y: When did the government build this road? Do you know? Malayalam was speaking with translator A: 2-3 years before Y: Really? It is very new. A: You know this was done after the flood. Y: And... and they... did they do it before the bridge or not? Malayalam was speaking with translator T: After this flood. V: now it is concreted. before it was just a pathway.

		Y: You know after that they constructed bridge, isn't it?
		A: Which bridge?
		Y: metallic bridge.
		Y: Firstly, road or bridge? It was made in 2019 as I have known. Which one is first?
67	33:52.0 - 34:17.3	A: navy bridge is the first one. Malayalam speaking A: Oh no. This (road) was done and after that the navy did the bridge. Y: Yeah the road is the first one. A: Yes. Malayalam speaking A: Navy did this just for one year you know Y: Haha. A: I will show something to you.
68	34:17.3 - 34:51.6	A: Everything is written there. Y: for road? Where is that? A: It is written over there. malayalam speaking Y: How did they provide their drinking water before?
69	34:51.6 - 35:07.4	Malayalam speaking
70	35:07.4 - 35:34.1	A: In 1973, they got the water connection, you know. And after that only they got the electricity. So, before they had to go by their own boat to other places and they had to collect water and come back. Y: Hihi. I will ask one question. You know, the Panchayat did this road, isn't it?
71	35:34.1 - 35:40.9	Malayalam speaking
72	35:40.9 - 36:33.0	A: You know, one guy was there (saying his name). He was a member of parliament. And with his fund this road has been constructed. Y: Okay. Member of the parliament. Malayalam speaking
73	36:33.0 - 37:23.0	Malayalam speaking Y: What? What is he saying? A: He is talking about xxxxxx, one member is that parliament. He is the one who did this you know, he is the one who provided for making this road. He led the MP. You know, he gave the money. Y: He gave the money?? A: Yeah. His fund you know. MP is having a fund. Y: Can you write his name? A: xxxxxx.
74	37:23.0 - 37:45.6	Malayalam speaking
75	37:45.6 - 38:34.8	V: xxx was the first candidate from this ward, from this Cheriya Kadamakudy. Y: aaa really? V: It is like cheriya kadamakudy and Pizhala combined the Grama Panchayat also. Y: Hmmm. V: Since the population is larger, Candidates will also be looked at from there. Y: Okay. They are divided into 2 sizes. V: Yes yes also he was the 1st candidate from this ward. this area.
76	38:34.7 - 38:48.8	A: He is the one who did this.

77	38:48.8 - 39:38.3	Y: But he is very young. Isn't it? Y: Is he an MP? A: No, He was elected from Panchayat. Y:Ha okay. He was a candidate. He is still a candidate or....
78	39:38.2 - 40:35.4	Y: yeah, we just did an island tour with hiö. Can you ask what Varuna talked about? Because of the population they divided into two sections: Pizhala and cheriya kadamakudy. and When did it happen? V: no. They did not divide. they compounded. V: Kadamakudy is grama panchayat. Pizhala and Cheriya Kadamakudy are under Grama Panchayat. Here, the population is less. so most of the candidates are from the other side. This guy was the first candidate from this area.
79	40:35.4 - 40:50.5	Y: when it happened? A: 5 years ago. V: We asked him. A: It changes every 5 years. Y: ah okey, i understand.
80	40:50.5 - 41:13.9	Y: After construction of this road, did it become a little bit larger when compared to the old pathway? Malayalam speaking A: That was just a food path. Y: Now it is a little bit larger. A: yeah. Malayalam speaking
81	41:13.9 - 41:53.0	V: everyone gave their land. A: They gave land for the road. Everyone wants a road. Y: this road was tiny, now it is a little bit larger. has this road been extended to the water or the other side? A: to the other side. every house gave land for free without any cost. Y: Okay, understand. Can you ask if there are any temples?
82	41:53.0 - 42:34.6	Malayalam speaking A: There is a small temple there. Malayalam speaking Y: I think hindus families are living on this side. Malayalam speaking
83	42:34.6 - 42:38.2	A: When we go to that side, we will see.
84	42:38.2 - 42:52.0	Malayalam speaking V: He said "The houses in that area from there (pointing out some direction) belong to hindus."
85	42:52.0 - 42:58.5	A: You know that side locality is hindu. hindus people. Y: Okay, this side belongs to all hindus families?
86	42:58.5 - 43:05.6	Malayalam speaking V: He said "Yes, all in that area. There might be a total of 8 houses."
87	43:04.9 - 43:38.1	A: that area, full. maybe 8 houses. Malayalam speaking V: He said "Only in that area are the Hindu residents." Y: to the end of the island? Malayalam speaking A: We can move to another house. Y: Okay. last question. Would you like to have any facilities on the island?

88	43:38.0 - 43:58.8	Malayalam speaking A: nothing. Y: everything is fine?
89	43:58.8 - 45:24.1	A: nothing. Malayalam speaking A: They just need a new bridge.

Interview No. 17

	Timespan	Content
1	0:00.0 - 0:12.5	Y: What is your name? A: xxxx Y: xxx. Nice to meet you.
2	0:12.5 - 1:03.5	Malayalam speaking (the purpose and scope of the research is explained to the participant.)
3	1:03.5 - 1:07.7	Y: do you know we will not ask about any sensitive issue. just about the daily life of the island.
4	1:07.7 - 2:53.1	Malayalam speaking (The research is explained to the participant. Meanwhile, my wife and daughter call me, I give them directions to come.)
5	2:53.1 - 2:59.6	Y: what is the house name by the way? V: Edakatuparambil. Y: Is it same? V: yes.
6	2:59.6 - 3:05.0	Malayalam speaking V: She says "All houses in this lane are of the same house name."
7	3:05.0 - 3:09.6	A: From here to until there it is same.
8	3:09.6 - 3:51.2	Malayalam speaking (trying to find sheets to give and sign)
9	3:51.2 - 3:54.6	Y: What is your occupation?
10	3:54.6 - 4:04.6	Malayalam speaking V: She says "I'm a homemaker." <i>Are you in kudumbhasree?</i> V: She says "Yes I do.
11	4:02.7 - 4:09.5	A: She is not working but she is the same about Kadambussary
12	4:09.5 - 4:30.5	Malayalam speaking Y: How long have you been here? Malayalam speaking A: She came here 15 years ago. Y: 15 years ago.
13	4:30.5 - 4:34.8	Y: Okay, what is her husband's occupation?
14	4:34.8 - 5:29.2	Malayalam speaking V: She says "Nothing particular like that. He does anything that comes to him. He had a transplant and so cannot go to work all the time. Before it he was a mechanic. (Introduces the members)."

15	5:29.2 - 6:09.4	Y: Do you have 3 children right? A: yes, 3 children. Y: how is your relationship with others on the island?
16	6:09.4 - 6:24.8	Malayalam speaking V: She says "No issues at all. "
17	6:24.8 - 6:31.0	Y: Are they supporting each other in case of an emergency?
18	6:31.0 - 8:10.1	Malayalam speaking. V: She says "People support. Things are much better now. In earlier times, it was a narrower road without accessibility of vehicles. It has been a difficult time for 10 years since I came here. Now it's been improved with developments. water scarcity was really hard. Water was brought in a barge and distributed. Only a bucket of water would be given and we need to do all kitchen chores with that bucket of water. For washing and cleaning we depended on the public well at the end of this lane. It was really a hard time then. Now we have got a pipe connection." Do you get water regularly? V: She says "On alternative days. We need to collect it but now get sufficient water for usage. It was said that there was a pipe connection even before but from the time I was here there was extreme water shortage. Then the difficulty of travel. The road was very narrow. I really thought that I was damned by getting married to this place. "
19	8:10.1 - 9:24.6	V: She was talking about a situation when she was married with him 15 years ago. It was a disappointment for her life itself. because she had to get fresh water when wearing clothes.. A: She had to take clothes from here, to the other end of the island, there was tank.. they had to collect water and that's how..... Y: for fresh water? A: no. water was not here, right? they had to go to the end of the island to collect and they had to come back. V: she had to carry the clothes with her and go and wash and come back. Y: every other days.
20	9:24.6 - 9:28.1	Y: when did they get a pipe for water connection?
21	9:28.1 - 9:33.9	Malayalam speaking
22	9:32.3 - 9:53.2	V: 3 years. Y: It was 3 years ago? I guess it was a long time ago. A: 3 years. Y: Can you ask if all houses on this island got connected 3 years ago or just this house?
23	9:53.2 - 10:26.4	Malayalam speaking V: She says "Some had it early. It is said that we had a connection before my marriage. So some families could have got the connections at that time. " So what happened to yours?

24	10:26.4 - 11:07.3	V: She says "Some issues...I don't know and also water stopped in the taps. Almost nobody had used to get water in taps. Because of it water used to be brought in barges and filled a tank near the river bank from which we collected water. " V: some families had the connection before. 10 years ago. but she doesn't know what happened. There was a scarcity in the water. A: Connection was there but there was no water. V: some families got earlier itself but this area got connection very recently. Y: is there any reason for that?
25	11:07.3 - 12:01.4	Malayalam speaking V: She says "One reason for it is said to be damaged pipes." (Some related issues are told but not audible) A: pipe has been damaged and has broken by someone else. Malayalam speaking.
26	11:57.5 - 12:03.9	Y: Can you ask how many hindu families live on this island?
27	12:03.9 - 12:18.1	Malayalam speaking A: 11 families.
28	12:18.1 - 12:36.3	Malayalam speaking A: 12 houses
29	12:36.3 - 13:06.8	Y: you know from here to the end of the road were all hindu families? Malayalam speaking V: they are family. they are relatives Y: I mean just this area. V: hah, this area. Y: there are christian families as well.
30	13:06.6 - 13:22.1	Malayalam speaking V: She says "Almost all are relatives. Christian families have generally got the name Pashiniparambu and for hindus Edakatuparambil.
31	13:22.1 - 13:28.8	V: generally, pashniparambil. A: hindus are having edakatuparambil.
32	13:28.2 - 13:43.3	Y: Does she know the meaning of this house name (edakatuparambil)? A: No. Y: Does she know her early relatives? When did they come to this island?
33	13:43.3 - 14:00.0	Malayalam speaking V: She says " I don't know. The old people in the other house might know about it.
34	14:00.0 - 14:30.2	Y: When did their early relatives come to this island? Does she know any stories?
35	14:30.2 - 15:06.8	Malayalam speaking V: She says "It's said that forefathers came here. I heard that forefathers came here for the service of landlords. Such matters could be known if my in-laws were here." Malayalam speaking
36	15:06.8 - 15:08.1	
37	15:08.1 - 15:57.7	V: one of the stories is like.. her forefathers accompanied the landlord here to service him. and then he (landlord) got him here and that is how their family came here. V: her mother in law told her.

38	15:57.7 - 16:13.9	Malayalam speaking
39	16:13.9 - 16:31.0	Y: and this house's early relatives came to this island as a servant to accompany the landlord. A: He was cooking. Y: And he got this land from the landlord?
40	16:31.0 - 16:38.6	Malayalam speaking V: She says "Yeah, It is said so."
41	16:38.2 - 16:41.7	
42	16:41.2 - 16:45.5	Malayalam speaking V: She says "It is said that 10 cents were distributed to each of the employers. (remark: mentioning the feudal system)"
43	16:46.1 - 16:53.8	A: 10 cent of plot for everyone. Y: for each.
44	16:52.4 - 17:07.7	Y: Does she know anything about the history of the island? Did her mother or father in law tell a story? It was like in the past.....
45	17:07.7 - 17:47.9	Malayalam speaking V: She says "I have heard that it was all paddy fields here. The dilapidated house you see there was used to dry grains. The old lady there can tell more about it. "
46	17:47.9 - 18:07.1	
47	18:07.1 - 18:39.8	Y: Varuna told little bit about the meaning of the house name. like in the forest. Malayalam speaking. A: eda means between; kada means in between; kadu means forest. thats why she combined like edakaduparambil. Y: maybe in the past there was a forest here. V: It was more like a forest. could be..
48	18:38.9 - 18:49.4	Y: Okay, what are good things about living here? Laughing Y: If there is any?
49	18:49.4 - 18:57.7	Malayalam speaking
50	18:57.7 - 19:24.3	A:you know there is no issue. everywhere is silent. because it is more natural. V: there is no disturbance. nature is more enjoyable. A: Pollution is not there. vehicle pollution....nothing is there. it is a very nice and beautiful place... Y: disadvantages??
51	19:24.3 - 20:07.1	Malayalam speaking V: very much better when compared to the time she came here.
52	20:07.1 - 20:57.8	Malayalam speaking A: You know she is telling mother in law lots of stories. also one old lady is there. Y: Okay, we can do it after finishing this interview. Malayalam speaking
53	20:57.8 - 21:01.9	Y: what kind of facilities do you want to have here?
54	21:01.9 - 21:41.4	Malayalam speaking A: anything else.

		Y: really? V: She has a feeling that she is safe here. Y: maybe we can ask. I am not sure whether she knows or not. Is there anyone converting their agricultural land to the residential land? A: no she doesn't know. Y: just ask.
55	21:41.4 - 21:52.5	Malayalam speaking A: Nothing is there.
56	21:52.5 - 22:28.6	Malayalam speaking Y: she is new on the island. that's why she doesn't know. I will ask one question. Are they going to this temple? A: yes. She does. Y: when?
57	22:28.6 - 23:27.3	Malayalam speaking V: She says "Each family lights lamps there daily, usually at 5 or 6 pm, on weekly rotation".
58	23:25.1 - 23:36.5	V: light lamp every evening A: from 5 to 6 o'clock. Y: did not understand. Y: they have to light a light.
59	23:36.5 - 24:14.9	Malayalam speaking. Y: just hindu families? V: It is for families of the temple.
60	24:14.9 - 25:35.3	Malayalam speaking

Interview No. 18

	Timespan	Content
1	0:00.5 - 0:29.5	Y: Can you introduce yourself please? A: Her name is xxxx. She is 72 years old. Y: What is the house name? A: Edakatuparambil. Y: Okay, same. What is she doing?
2	0:29.5 - 1:11.5	Malayalam speaking
3	1:14.3 - 1:26.3	A: She was not working. Her husband was working. They had paddy fields. it is not theirs but they were working on it.
4	1:23.7 - 2:50.7	Malayalam speaking A: They have their own property and...
5	2:50.7 - 2:59.6	Malayalam speaking A: They have their own paddy field and they are used to working in that. Y: Okay. it is not rented. A: not rented. Y: Okey
6	2:59.6 - 3:32.8	Malayalam speaking A: They also have paddy fields but they are not doing paddy fields. just fishing. Y: Just fishing. Her husband is doing it, right?
7	3:32.8 - 4:44.2	Malayalam speaking Malayalam speaking

		V: She said "labourers are not available. Don't we need labourers for harvesting? Nobody is available for it. Young people were the ones who used to toil the land, but now they go in search of other works and even cultivation is of no profit because of salinity. In the past, about 60 labourers from outside used to come to cut and collect the paddy and collect approx. 200 kg rice during that time. Now, we don't get labourers in order to plough fields because there is nobody. Younger people used to plough fields. Now we cannot get anybody." (inaudible due to noise so paraphrasing what i get to know) tells about the harvesting in old days when reaping is done within a week with 20 or more people. Machinery was also used for the other processes. Did you used to go for harvest? V: She said "Yes. V: telling about labourers.
8	4:43.5 - 5:46.6	A: Lots of years before it has been done by lots of ladies joining together like a line. proper line. they would start from one side and it would be over. V: Within two days it would be done. but now it takes more than a week. A: With machines it will be very easy for them. she is telling this generation that they do not know what paddy field is and how to do it.
9	5:46.6 - 6:03.7	Malayalam speaking V: She said "Labourers used to come from other places for harvesting. Nearly 60 people come for it. Now nobody comes."
10	6:01.4 - 8:26.7	A: Older days lots of people come to do this (job). it was very easy and fast people. Malayalam speaking.
11	8:22.0 - 10:40.7	V: Actually it is like cross cultivation. Leftover rice could be given as a food for fish. A: It will be in the water itself. Y: Leftovers. A: Leftovers. There was a lot of small grass there. V: Straws will be leftover, right? could be given as a food. Y: after rice cultivation? A: But now it is not like that. She is saying that when compared to older days, now they do not get that much profit from fishing. Y: Okay I understand. They were used to feed fishes with leftovers but now it is not possible. and are they selling the fishes? (there is a voice coming from outside.) Y: are they children? V: Yes.
12	10:41.3 - 14:46.5	Malayalam speaking Asks about the leasing out of the farm. V: She said "3 own it but one alone runs the farm now."
13	14:47.8 - 16:04.5	Y: What was she saying? Malayalam speaking.

14	16:06.7 - 18:25.0	Y: when did she come to this island? A: she is telling lots of years before. Y: after marriage? V: She is 72 now. (calculating) Y: but she came here after the marriage, isnt it? when did she get married? V: 19 years (old). Y: 19 years old, ok. V: 50 years ago. Malayalam speaking.
15	18:27.2 - 20:05.1	V: She was talking about convention about how she got married. V: she was a promised girl. Y: okey come to the topic.
16	20:07.7 - 22:58.8	Y: Does she know anything about the history of the island? Malayalam speaking V: She said "When I came here there was no way to get here, only just a footpath made of mud. I have 4 children. During their school time we needed to cross the marshy area to get them to school. So an extra pair of dresses had to be carried. Once we reached the other side we got some water to clean ourselves from any house there. Do you know where we went to buy rice ? There were ration shops near the bank of the river. We bought things from there and when we had sufficient money we used to go to varapuzha market to buy all other necessary household things. Things had to be bought beforehand. Accessibility of such things at any time was not possible." V: It was very marshy. A: When they walked, mud was (untill) up to their knees. when they were taken, after near the school somewhere, they were just changed, they xxxxxxxxxxxxxxxxxxxx afterthat they were washed them and put them into new dress and they were going to the school. Y: they were doing this close to the school. A: and you know there was a ration shop. ration is given by the government to everyone. to get the ration also, they had to go to pizhala. At the end of the river, there was a ration shop. Y: what is the ration shop? V: subsidies for rice for all necessary items given by the government. Here we get the wheat. A: There are 3 different types of ratio: white, pink, yellow. Y:What is that? Malayalam speaking.
17	22:58.2 - 25:41.8	A: You know, actually the highest is white card. white card belongs to a rich person. V: rich someone? their income is comparably higher. A: their income is high when compared within one year. yellow is one the lowest ones. They get more subsidies from the government. They got rice, wheat. everyone gets the rice actually. Yesterday we went to a house and ate rice. that rice is given by the government. V: She told us that the government provided all the rice. We are like okay, enough for everything. A: You know you get the kerosene from the government for everyone. For every card some amount of kerosene is given every month.

		V: this was used as a fuel to light up a house. Y: What was she saying? They were going to this shop? A: She was telling them they were going to this shop to get many things. They get rice, wheat. V: for all of that they had to go to that place by crossing all marshy land. Y: It was in Pizhala? A: Yeah, end of the boat jetty in Pizhala. V: It was all marshy. It was very difficult. had to cross it. A: You know she was telling me that they had to buy monthly. for a month they had to buy everything when they went with the boat to the other side. they got everything and came. in between they could not go. Y: Once a month. V: if anything urgent came, you could not do anything. Malayalam speaking And there was no scarcity in the rice, they were calculating. Malayalam speaking
18	25:38.4 - 26:20.6	A: In older days, their rice was beaten with a stone. You know rice and the grasses leftover from the rices were separated. this rice has been packed and there was sufficient rice. It has been done before. V: both man and woman have been involved in this labour whatever all hard work.
19	26:19.9 - 29:27.7	Y: They were made manually, right? without a machine. A: Now we have lots of machines for that. Y: what did she say exactly? A: She was telling me that in older days they were getting rice after removing it. They had lots of rice. After that, they now have to buy rice from the ration shop provided by the government. they have to go to Pizhala somewhere else to buy. Now they don't have paddy fields. they should definitely buy rice from a ration shop. You know if you want to buy from outside, you get. there is no rule that you should buy rice only from the ration shop. V: It is subsidised rice. A: They can be used for anything. Some people wont eat that rice and some buy from outside for better quality rice. Malayalam speaking. A: You know some will be given for tax. V: You cannot ensure the quality of the rice. That's the issue. A: That is very low quality rice. V: Sometimes. A: Some are very nice. During lockdown time people used to make biryani with that rice. The thing is that it will be ready within minutes. that rice does not want that much time to be cooked. within seconds it will be cooked. If they want to buy better quality rice, they can buy from the shop. V: but it costs 40 rupees for 1 kg. compared to this, it is like 2 rupees for 1 kg. A: During lockdown time the government provided lots of things like green salt sugar, cereals, chilli powder. not everything. a little bit. Y: Ancy can you ask what kind of necessities were they taking from this shop in the past? Malayalam speaking A: rice, wheat, kerosene, half kg of sugar Y: But they were producing their own rice? Malayalam speaking

20	29:27.7 - 30:34.9	A: If their children were not used to eating that rice, they would eat the other rice. Malayalam speaking V: She said "That was pokkali. People come in search of it but even though we cultivate, there is no good yield. Now the panchayat provides a breded grain to sow." Yeah a man has mentioned it, do you know the name of it? V: She said "No, i don't know. We don't buy it." A: (Pointing with her hand the size of pokkali rice) Pokkali has this much length. will be half cm. That rice is very big. children are not used to eating that. for them they were buying the other rice from outside. Malayalam speaking A: People are coming to ask for this pokkali rice but they are not producing any-more. V: Pokkali is very good for your health. A: very rich in minerals. V: It doesn't have pesticides. Y: yeah, I have heard about that. Malayalam speaking
21	30:34.9 - 34:25.9	Malayalam speaking Already mentioned in the previous time stamp. Later is the Casual discussions on the buttermilk served. A: You know the government is providing the seeds. That guy showed us. that is actually small. they don't get the sufficient yield from them. they are not doing it.
22	34:28.2 - 37:13.1	.Y: I am wondering is there any change in relationship between people in the island when compared to past? how was the people's behaviour? Is there any change? Malayalam speaking

23	37:10.8 - 39:11.2	A: You know, in older days it was like a joint family. Everyone was there for every function. They were staying at home for a long day to chase everything for everyone. Now people don't have much time. their relationships are changing. mentality is also changing. V: when they get separated from the family it is like.... V: they have to cooperate with each other though. Y: She is telling, right? V: yeah. They cooperate xxxxxxxxxxxx that xxxxxxxxxxxxxxxx. A: Compared to older days, bond is low. V: little bit V: As she said before, for each function even to buy a little thing, you would go with family. but now it is not like that. A: Everyone is separated. Everyone wants to live on their own. no one wants to I will tell you. This has been done before. If a family member got married, you know, everyone means every house person's generation and generation before, who are attached to the family everyone was staying in. and they were going to buy everything together. everything has been done together A: Now people are not going like that. people are used to just xxxxxxxxxxxxxx buy main things and come back. Malayalam speaking V: same. the only thing is that people were a joint family, for everything they were being together but when they got separated, they had to cope with everything. The bond is a bit reduced now.
24	39:07.1 - 40:45.9	Y: What are they doing in case of an emergency? Are they supporting each other? Malayalam speaking (Tea is served) Y: Thank you. Malayalam speaking V: She said "Everybody comes for help then...now vehicle accessibility is possible...previously we went in boats as vehicles could reach only till Chittor (name of the place), now vehicles reach here. Now it's very much easier. Back then it was really hard, once anybody fell ill it was very difficult to take to hospital. Now a taxi can reach till here but before we needed to cross 3 rivers. At most of the times

		people died half the way to hospital. It happened to my husband, and his brother.`
25	40:45.9 - 42:58.6	V: She is telling about her personal experience about her husband's incident. When he was ill, they were taken to hospital. He died in the middle of the road..... A: They had to cross 3 boats from this side to that side. Y: Her husband died? V: Yeah. on the way Y: Ah.. what is his husband's name? Malayalam speaking V: xxxx A: You know she was telling us that when we wanted to reach the hospital we had to go through 3 boats. . one is this, and the other one is from Pizhala to the other side and then Chittor to the other side. three boats. after that.... V: they could get to the hospital. Y: but he died in the middle of the road. V: Yeah. Y: When did it happen? Malayalam speaking V: She says "When we had taken my husband to the hospital, he was already dead. then doctors explained that if they had been there little bit time before he could have been saved" Y: When did it happen? V: she dont remember. A: 18 years ago
26	42:58.6 - 43:28.2	Malayalam speaking
27	43:28.2 - 44:20.3	Y: Can you ask after the construction of the metal car bridge, has their life changed? Malayalam speaking
28	44:20.3 - 44:53.3	B: Now during the weekends people come to visit that place.
29	44:53.3 - 45:06.0	V: Have you seen any small bridges over there, somewhere? Y: Small bridge?
30	45:06.0 - 45:50.1	Malayalam speaking
31	45:50.1 - 47:51.5	A: You know we came through the way, right? concreted one. is there a narrow bridge over there? you know to make it large, the government has passed. A: That narrow bridge is there. The bridge is small. to make a little bit larger, V: She is telling me that one car has dropped into the water.. A: When we came to the upper part, we couldn't see the down part. right? You know that day I asked her if the car was taken because there is no way to bring that car upright. she told me that day the mud was taken with a machine. that must have helped to take the car. the car would go.
32	47:51.5 - 49:22.0	Y: Can I ask if there was a concrete road between the house and
33	49:22.0 - 49:59.7	Malayalam speaking
34	49:59.7 - 50:31.8	Y: on the island, they just have concrete roads. Malayalam speaking Y: What is she saying?

35	50:30.2 - 51:17.0	V: Not more than 4 years now. A: Actually it was done for the temple. Malayalam speaking
36	51:17.0 - 51:46.6	A: You know, actually this road is not a proper road. (referring to the roads around edakatuparambil) it is drainage because here slabs there are between in the centre part of. For that they also made a kind of road. It is difficult to drain water. Y: who did? A: government, panchayat. Y: panchayat. okay.
37	51:46.6 - 52:30.6	Y: You know, on the other side of the island, I did not see any drainage system. A: There everything is road side, in front of the river. This is like an inner part. right?
38	52:30.6 - 54:02.9	Malayalam speaking V: She said "Domestic sewage system is connected to that drainage" (Discussion among ourselves.) When we apply for the consent for a house, the drainage system must be mentioned. (Tells the issues regarding the sanction of building a house.) V: She said "We don't have enough space for the drainage system as per the law that makes the sanction delay. It is being told like that...i dont anything further."
39	54:02.9 - 55:09.9	Malayalam speaking V: She said "During the rainy season, water clogs here." Y: Is it why you need to extend that drainage system here? V: She said "Yes, the ground level is lesser compared to that of the next house. So water flows from there to here. What we do now is we dig a channel for the water, but it is impractical to always do it. If a drainage system is built the situation can be better."
40	55:04.5 - 58:00.1	A: She is saying that that side is a little bit low. When it is the rainy season, water will be here like. it will be there itself. it will be on the top of it. the government said that they will make a small drainage system for the water to easily flow into the direction of drainage. also in the kitchen. They have to do things first and then they will be able to make this house (referring to this family's newly built house). Malayalam speaking A: She was telling us that they have to first make a plan for the drainage system. when only they can build a house. not only for drainage but also water issues over there, they need a drainage system first. If they are able to, they only are able to make a house. Y: they already have now? A: No they don't. they have to. because the house that they are going to make is a little bit far away. They need to make small drainage. Y: they need to make an extension. A: yes. Y: ok. I understand.
41	58:00.1 - 58:07.9	Malayalam speaking Y: How did they get drinking water before?

42	58:07.9 - 58:20.2	Malayalam speaking V: She said "Water was not available. We went to Mulavukadu to fetch water. A group of people went for it and distributed the water to every family. River water was also used."
43	58:15.9 - 58:48.8	Malayalam speaking
44	58:48.8 - 59:25.4	Malayalam speaking
45	59:25.4 - 1:00:01.0	A: In older days people used to bath in the river V: they just used to clean and wash for daily life. Y: from the river. V: Yeah, river.
46	1:00:01.0 - 1:00:27.5	Y: Can you ask when did they construct this temple nearby? Malayalam speaking V: She said "...4 years ago.." Renovated? V: She said "Yes." How was it before? Malayalam speaking V: She said "Before the renovation there was only a platform built with stone and cement."
47	1:00:27.5 - 1:00:58.3	B: when I was married and came to this island, statue was there.
48	1:00:58.3 - 1:01:52.4	Malayalam speaking
49	1:01:52.4 - 1:04:17.0	Malayalam speaking
50	1:04:17.0 - 1:04:28.0	Malayalam speaking
51	1:04:28.0 - 1:04:43.1	Malayalam speaking
52	1:04:40.8 - 1:04:40.9	Malayalam speaking
53	1:04:40.8 - 1:05:51.8	Malayalam speaking
54	1:05:51.8 - 1:06:43.8	Y: who renovated this temple? Malayalam speaking V: She said "7 families are in charge of it. "

55	1:06:43.8 - 1:07:58.4	Y: how many houses were there when she came? Malayalam speaking. (Explains it) V: She said "38 families. Now it has increased. 10 cents of land was distributed as per the land reformation act. Now it is divided among the children and they settle there. It's better as otherwise if migrated people need to buy land. That's the reason for the increased number of houses." Malayalam speaking (she is talking about land reform) important part (mentioned in the time stamp above)
56	1:07:58.4 - 1:08:38.2	Y: Can you ask if anyone converted their agricultural land to residential land?
57	1:08:38.2 - 1:08:56.3	Malayalam speaking V: She said "If such things were initiated people agitated. Some people had problems with this kind of partitioning. they used to protest.